MALDEN,

MIDDLESEX COUNTY, MASSACHUSETTS.

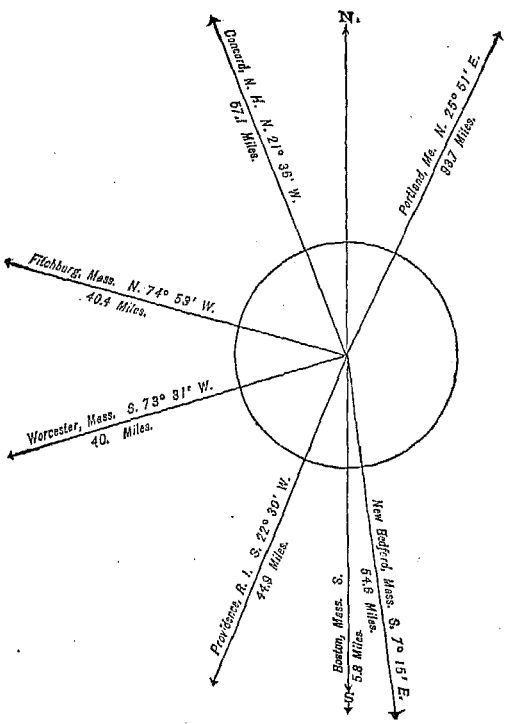
POPULATION

IN THE

AGGREGATE,

1800-1880.

	Inhab.
1790	.....
1800	1,059
1810	1,384
1820	1,731
1830	2,010
1840	2,514
1850	3,520
1860	5,865
1870	7,370
1880	12,017



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	5,590
Female	6,427
Native	9,569
Foreign-born	2,448
White	11,960
Colored	*57

*Including 2 Chinese.

Latitude: 42° 26′ North; Longitude: 71° 4′ (west from Greenwich); **Altitude: 5 to 219 feet.**

FINANCIAL CONDITION:

Total Valuation: $10,370,325; per capita: $863 00. Net Indebtedness: $483,522; per capita: $40 24. Tax per $100: $1 05.

HISTORICAL SKETCH.

In 1629 Ralph Sprague, with a party recently landed at Salem, passed through the country on the easterly side of the Mystic river, and reported it an "uncouth wilderness and full of stately timber". Not long after, this "wilderness" began to be attractive to settlers, and in 1633 the territory lying between Island End river and North (or Malden) river, and so up the country, was granted to Charlestown. In the following year a party of settlers came from Charlestown, and an allotment of land in parcels of 5 acres each was made to settlers. The boundaries were regulated in 1636, and the settlement became known as "Mystick-Side", though it still remained a part of Charlestown.

Settlers increased rapidly in numbers, and in 1640 a ferry was established over the Mystic. In 1638 Joseph Hills, a former inhabitant of Maldon, Essex, England, came to the settlement and soon became its leading citizen. In honor to him the town, which was granted an independent and corporate existence in 1649, took the name of Mauldon, which, in a corrupted form, "Malden", it still retains. Joseph Hills was its first representative, and was leader of its forces in the Indian wars. The first town clerk was John Wayte, and Thomas Squire, William Brankenbury, John Upham, John Wayte, and Thomas Caule were the first selectmen. The advanced and independent position of the minister of the town, Mr. Matthews, brought the censure of the civil authority upon Malden; and though the town upheld him to the best of its ability, it had finally to yield to the superior strength of the colony and dismiss him. During King Philip's war Malden suffered greatly from the heavy taxes which the war made necessary; but when peace was again established the town entered upon a period of steady growth. In 1663 William Godden left a bequest in aid of the schools of Malden and Charlestown, and in 1671 a school was maintained at the expense of the town. Citizens of Malden were among those who escorted Sir Edmund Andros from Boston in 1689, thus putting an end to the power of the Stuarts in New England; and, sad to say, they were also among those who persecuted the witches in the days of the Salem-witchcraft excitement.

During the Revolutionary war Malden did her duty in furnishing brave soldiers for the cause of independence. The first half of the nineteenth century was a period of steady increase in wealth and population. Malden, which in 1776 had only 1,030 and in 1800 but 1,059 inhabitants, had increased in 1837 to 2,300, while the value of her productions was over $350,000 per annum.

The opening of the Boston and Maine railroad in 1845 gave a great impetus to the growing town and influenced its development in many ways. Between 1840 and 1850 the population increased from 2,514 to 3,520, although in 1849 a portion of Malden was set off and incorporated as the town of Melrose, by which Malden lost 1,260 inhabitants. The railroad facilities and the cheapness of the land gave birth to various enterprises. One of these was the Edgeworth Company, which purchased land on the west side of the Malden river and upon the Highlands. In this district several manufacturing establishments have grown up, which in 1875 yielded a product valued at $2,000,000. Malden increased rapidly until, in 1860, the town had a population of 5,865 and a valuation of nearly $3,500,000. During the civil war Malden furnished 600 men. Since the close of the war the increase has been still more rapid than ever before, so that, although in 1870, by the incorporation of a portion of her territory as the town of Everett, Malden again lost numbers of her people, she was left with a population of 7,367, while her valuation had swollen in 1870 to nearly $5,000,000. In 1880 the value of her property had more than doubled, while her population had increased nearly 75 per cent.

The town was supplied in 1870 with water from Spot pond, and now enjoys the blessing of a large and excellent supply of water. In March, 1876, Mr. John Gardner, a native of Malden, though a resident of Charlestown, Massachusetts, presented the town with $5,000 for the establishment of a public library. The library was opened for use in 1879, and in the next year had 6,112 books and 670 pamphlets on its shelves, while an annual circulation of nearly 46,000 volumes showed that the people of Malden appreciated its value.

In 1877 the town was increased by the annexation of a part of Medford, but to-day has only one-third the territory once belonging to the little settlement of Mystick-Side. Its greatest length from east to west is about 3 miles, its average width about 1½ mile.

The principal manufactory is that of the Boston Rubber Shoe Company, one of the largest establishments of its kind in the country. These works were begun in 1853, rebuilt and enlarged after being destroyed by fire in 1875, and are now valued by the assessors of the town at $377,400. Besides rubber goods, Malden manufactures leather of various kinds, sand-paper and emery-paper, and shoe-lasts. Her people are able and energetic, and confidently claim for their town a brilliant and successful future.

MALDEN IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Malden:

LOCATION.

Malden lies in latitude 42° 26′ north, longitude 71° 4′ west from Greenwich, on the Malden river, a small stream navigable only for small vessels, and is about 6 miles from Boston, in a northwesterly direction. Its highest point rises about 219 feet above the sea-level, while the lowest point is on a marsh rising but a few feet above the level of the sea.

RAILROAD COMMUNICATIONS.

The Boston and Maine and the Eastern railroads pass through the town, and give it connections with Portland on the north, and, through Boston, with all parts of the United States.

TRIBUTARY COUNTRY.

The country immediately tributary to Malden is agricultural to only a slight extent. The principal importance of the town and its immediate surroundings is chiefly in the direction of manufacturing, and as a residence for many of those who carry on business in Boston.

TOPOGRAPHY.

The town lies on either side of the Malden river, and in its easterly portion is largely marshy. The underlying rock is slate and feldspar porphyry, which is found in large quantities. Micaceous specular iron ore is said to exist here in small quantities in porphyry.

CLIMATE.

No report as to the climate was made.

STREETS.

But little data could be obtained concerning the streets, which are principally of gravel, and none of them are paved. The sidewalks are of gravel, concrete, and brick—the gutters generally of gravel, although a few are paved. The streets are shaded on both sides by large trees, which in general are planted within the curb-stones. The work of repair on the streets is done by the day, at an annual cost of from $12,000 to $14,000.

HORSE-RAILROAD.

Malden has a single line of horse-railroad, which is 7 miles in length, has 21 cars and 66 horses, and employs 27 men. It carries passengers at a rate of 2 cents per mile. There is besides one omnibus line.

WATER-WORKS.

The works which supply the town with water were erected in 1870, at a total cost of $353,694. The water is taken from Spot pond, a large pond situated on the hills northwest of the town, which is nearly as high as the highest part of Malden. The same pond furnishes also the water-supply of Medford and Melrose. The income from water-rates in 1880 was $32,276 63, and the total expenses for the year were about $30,000. Meters are employed when the water is used for stables or for manufacturing purposes, but not in private houses, unless at the request of the occupant. There are 35.87 miles of pipes and mains, 305 stop-gates, and 196 hydrants. There were 19 meters in use during 1880, the amount of water registered was 9,803,136 gallons, and the revenue from this was $2,450 78.

GAS.

Gas is supplied by a private corporation. The average daily production of the works is 35,000 feet. The charge per 1,000 feet is $3 50, although a discount of 50 cents is allowed to those who pay by the 20th of each month. The town pays $12 70 per annum for each street-lamp, 170 in number.

PUBLIC BUILDINGS.

The town owns and occupies for town purposes a town-house, valued at $30,000; 11 school-houses, valued at $179,000; 6 engine- and hose-houses, valued at $36,000; and an almshouse, which, with the land attached, is valued at $11,300.

PUBLIC PARKS AND PLEASURE-GROUNDS.

Malden has no public parks or pleasure-grounds.

PLACES OF AMUSEMENT.

There are no theaters in Malden. The town-house, which has a seating capacity of 800, and two smaller halls, each seating 300, are used as concert- and lecture-rooms.

DRAINAGE.

Malden has no complete system of sewerage. The report of the road commissioners in 1880 shows that there are a few drains used to carry off the street-washings, but the drainage from houses is not allowed to enter them; but since water has been introduced into the town it is claimed that sickness has increased, owing to the fact that the ground has become impregnated with liquid impurities which have come from imperfect cesspools, and a sewerage system is now being agitated.

CEMETERIES.

No information in regard to cemeteries was furnished.

MARKETS.

Malden has no public or corporation markets.

SANITARY AUTHORITY.

The chief sanitary authority of Malden is vested in the selectmen, who are constituted a board of health under the state law which provides that where no board of health is elected the selectmen shall act as such board. No separate account of the expense of the board is kept. In case of an epidemic any necessary expense can be incurred. The board meets once a week. None of its members have police powers. No assistants or inspectors are employed. The board has issued regulations providing for the sanitary condition of the town, which provide against the common causes of disease.

NUISANCES.

No regular inspections are made; whenever nuisances are reported the board takes such action as it thinks best to remove them. All expenses are charged upon the estate where the nuisance has existed. If the owner has had a hearing before the board prior to removal, its decision is final; if not, he has recourse to the courts for redress.

GARBAGE.

No regular collections of garbage are made by the town. The householders are required to dispose of their garbage for themselves, but must not throw it into any street or passage-way, or into any body of water within the town.

BURIAL OF THE DEAD.

No regulations regarding the burial of the dead have been issued by the board.

INFECTIOUS DISEASES.

Small-pox patients are quarantined at home. Every householder in whose house a contagious disease breaks out, or any physician summoned to attend such case, must report the fact to the board of health. If contagious diseases break out in the public schools the school committee have full powers to enable them to prevent their ravaging the schools. The town clerk registers all births and deaths.

REPORTS.

The board reports annually to the secretary of the commonwealth.

MUNICIPAL CLEANSING.

Street-cleaning.—No information on this subject was received.

Removal of garbage and ashes.—The householders remove all garbage and ashes at their own expense.

Dead animals.—No regulations on this subject have been made.

Liquid household wastes.—Chamber-slops, and kitchen and laundry wastes in most cases, go into open cesspools, none being allowed to run into the gutters. The cesspools are mostly porous, and generally receive the wastes of water-closets. When the public water-supply was introduced most of the wells in town were turned into cesspools; but in some cases wells have been contaminated by the soakage from cesspools. Owners and occupants of houses must keep all vaults, drains, and cesspools clean, but no special time for cleaning them is fixed.

Human excreta.—Nearly one-half the houses are provided with water-closets which empty into cesspools. The rest of the houses depend on privy-vaults. These must be kept clean, and can be emptied only in water-tight covered wagons, between 10 p. m. and 5 a. m. No regulations govern their construction. The night-soil is used on the outskirts of the town as a fertilizer.

Manufacturing wastes.—There is no system of disposing of these.

POLICE.

The police force is appointed annually by the selectmen, and is under the control of the chief of police, who recommends the patrolmen to the selectmen for appointment; his duties are a general supervision of his department; his salary is $1,000 per annum. The rest of the force consists of 5 night policemen, each receiving a salary of $800 a year, and of 6 day policemen, who are employed by the hour, at 25 cents an hour. The uniform is of blue cloth, and each man supplies his own. The men are equipped with a pistol, billy, handcuffs, and a police-call. The night police are on duty from 9 p. m. to 5 a. m.; the day police from 7 a. m. to 9 p. m.; they patrol 22 miles of streets. During 1880 the police made 200 arrests, the principal causes being drunkenness, assault, and

disturbing the peace. Most of the offenders were sentenced to pay fines. The total number of station-house lodgers during 1879 was 1,148. The police must co-operate with the fire and health departments. Special policemen are appointed like the regular force. The cost of the department in 1880 was $5,616 19.

FIRE DEPARTMENT.

The department consists of 1 chief and 4 assistant engineers, and of 4 companies, in all including 40 men. The town owns 2 steam fire-engines (one being held in reserve), 2 hose-carriages, and 1 hook-and-ladder truck. There is also a hand-engine, but it is not used. The department uses 5 horses and owns 6,500 feet of hose, 2,000 feet of which is unreliable. A fire-alarm telegraph, with 8 alarm-boxes, is in use. During 1880, 23 alarms were rung. The value of property destroyed was $23,903, on which an insurance of $15,715 was paid. The total expense of the department in 1880 was $7,884 46.

PUBLIC SCHOOLS.

The whole number of school-buildings is 11, in which 50 teachers give instruction to 2,731 pupils. The average membership was 2,021.5; average daily attendance, 1,825.

Great care is taken to make the sanitary conditions of the schools the best possible. The total expense in 1880 was $31,010 24.

NEW BEDFORD,

BRISTOL COUNTY, MASSACHUSETTS.

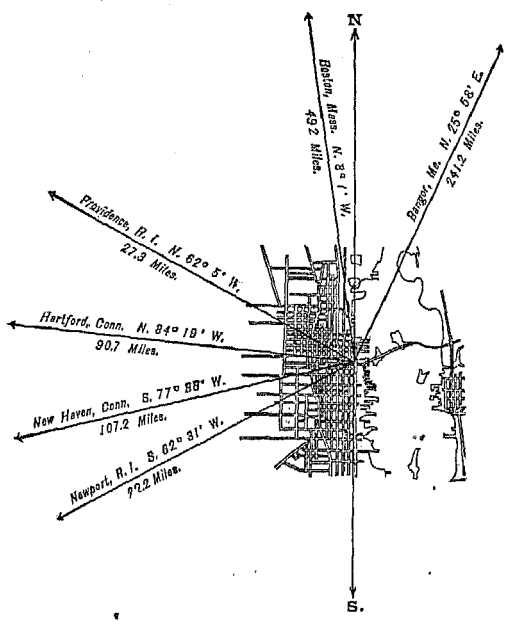
POPULATION

IN THE

AGGREGATE,

1790-1880.

	Inhab.
1790	3,313
1800	4,361
1810	5,651
1820	3,947
1830	7,592
1840	12,087
1850	16,443
1860	22,300
1870	21,320
1880	26,845



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	12,371
Female	14,474
Native	20,922
Foreign-born	5,923
White	25,290
Colored	*1,555

* Including 1 Chinese and 13 Indians.

Latitude: 41° 39′ North; Longitude: 70° 56′ (west from Greenwich); **Altitude: 0 to 144 feet.**

FINANCIAL CONDITION:

Total Valuation: $25,772,718; per capita: $960 00. Net Indebtedness: $1,086,000; per capita: $40 45. Tax per $100: $1 64.

HISTORICAL SKETCH.

The site of the city of New Bedford was purchased in 1652 from the Indians Wesamequen and his son Wamsutta. The deed was dated November 29, 1652, and included in its terms all the shore beginning 3 miles eastward from the Acushnet river, and ending at a flat rock on the westward side of the harbor of Awaksett, and extending "from the sea upward, to go so high that the English may not be annoyed by the hunting of the Indians in any sort of their cattle". The consideration paid was "30 yards of cloth, 8 moose-skins, 15 axes, 15 hoes, 15 pair of breeches, 8 blankets, 2 kettles, 1 cloak, £2 in wampum, 8 pair of stockings, 8 pair of shoes, 1 iron pot, and 10 shillings in other comoditie".

In June, 1664, by order of the Plymouth court, the mother town of Dartmouth received its simple chartered organization, which gave to the inhabitants the "liberty to make such orders as may conduce to their common good in town concernments".

The first settlers upon this ground were Ralf Russell, his son John Russell, and Anthony Slocum, who built an iron forge at Russell's Mills, and John Cooke, whose home was at the head of the Acushnet river.

In 1667 the court at Plymouth authorized John Cooke to make contracts of marriage in the town of Dartmouth, to administer oaths, to issue warrants in his majesty's name, to bind over persons to answer to the court at Plymouth, and "to give fourth subpœnies to warn witnesses".

During King Philip's war, in 1676, the new town suffered most severely. Nearly all the dwellings were destroyed and many of the people were killed. In the rebuilding and resettling the Plymouth court ordered that they should live compactly together for protection, "and to attend the public worship of God". But there seem to have been indeed few left, for all who remained retired into Russell's house at Apponagansett which was converted into a garrison. The end of the war again allowed the settler-soldiers to return to their farms and devote their energies to subduing the wilderness.

The business of whale-fishing so early became of importance to New Bedford that its history is identical with that of the town, and the wealth, population, and progress of the place have been the fruits of this industry. The business probably started among the men of cape Cod, whence it extended to other New England sea-board towns. In 1751 there were two or three vessels from Apponagansett river engaged in this fishery. Up to this time whales were principally taken between George's banks and the capes of Virginia, the voyages lasting from four to six weeks. Soon after, the whaling-grounds were extended to the eastward of the Newfoundland coast, and the voyages were lengthened to three months. At first more vessels were fitted from Apponagansett river than from the Acushnet; but soon the superior advantages of the latter harbor became apparent, and the Apponagansett vessels were fitted here.

In 1760 an immigration of mechanics to New Bedford began; but capital was wanting, and the growth of the place was slow until this came, in 1765, when Joseph Rotch, an enterprising merchant of great experience and knowledge in mercantile affairs, selected this harbor for the prosecution of the whale-fishery.

Up to this time the place had no distinctive name; it was simply a part of Dartmouth. At the suggestion of Mr. Rotch, and as complimentary to Mr. Russell, the place was called "Bedford", after the Duke of Bedford, whose family name was Russell.

The little village prospered and grew. Whaling voyages were extended and new fishing-grounds were discovered. During the ten years from 1765 to 1775 its whaling fleet increased from two or three to fifty vessels. But the war of the Revolution not only checked but almost destroyed the business of the place. No town suffered more from the common hazards of the war, or by the direct depredations of the enemy. Though the great majority of the citizens were Quakers and opposed engaging in privateering, yet many did engage in the enterprise, and the harbor was largely used to fit out privateers and for captured prizes.

On the 5th of September, 1778, the British made an attack on the place, chiefly for the purpose of burning and destroying property. About 5,000 men landed from boats in Clark's cove, and, marching up the country road to the village, they burned houses and wharves, shipping, naval stores, and provisions. The total loss of property was $126,074, and during the raid three men were killed.

The separation of the town from Dartmouth occurred in 1787, when the towns of New Bedford and Westport were, by acts of incorporation, severed from the old township of Dartmouth.

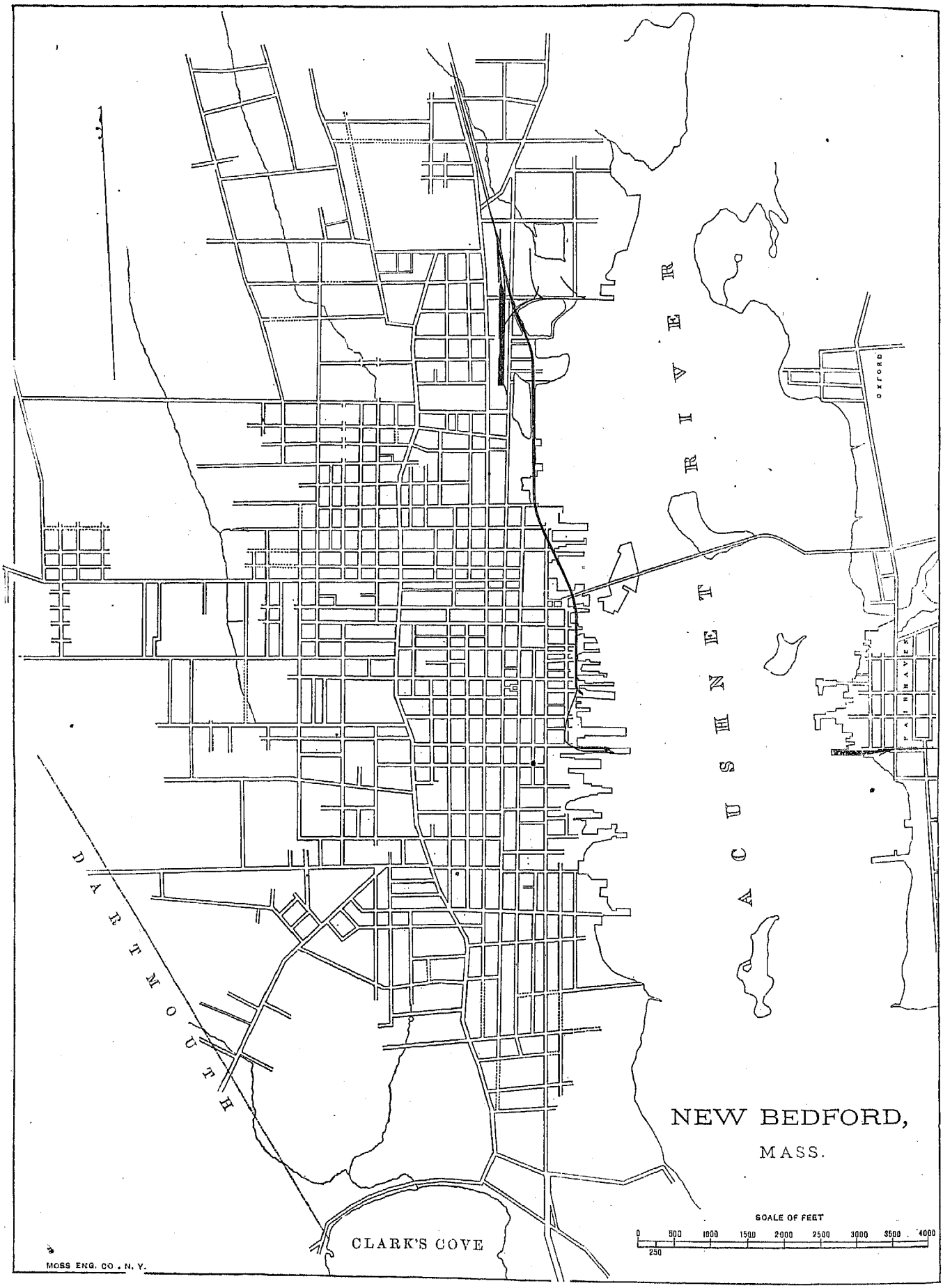
After the war the men of New Bedford tried hard to regain the prosperity lost during the war, but the British government imposed a heavy alien duty on oil, which made it impossible to push the business to a profit. This, however, was after a short time repealed, and the business of whaling more than regained its former proportions. In January, 1804, the total number of registered vessels sailing from New Bedford was 59, amounting to 13,621 tons, and of enrolled vessels there were 5,525 tons, making an aggregate of 19,146 tons. There were also 30 ships and brigs, averaging 200 tons each, owned and fitted here, employed in general freighting, and making their voyages to Europe, South America, and the West Indies.

Soon came the embargo and ruined many of the merchants. There was no marked improvement in this regard until after the war of 1812, when the whale-fishery, especially as prosecuted at New Bedford, advanced with great rapidity and wonderful success. In 1847, with a population of about 15,000, New Bedford received its charter as a city.

The whaling industry of the place reached its highest point in capital, vessels, and tonnage in 1857. Its fleet of 329 ships and whaling outfits was worth more than $12,000,000 and required 10,000 seamen. The largest importations of oil and bone were in 1851 and 1853, the quantities in each year being as follows:

Importations of oil and bone at the port of New Bedford in the years 1851 *and* 1853.

	1851.	1853.
Sperm-oil.....barrels..	99, 501	103, 077
Whale-oil.....barrels..	328, 483	260, 114
Whalebone.....pounds..	3, 906, 500	5, 652, 300
Total value for the year.....	$10, 042, 537 81	$10, 763, 107 83


NEW BEDFORD,
MASS.
ACUSHNET RIVER
DARTMOUTH
CLARK'S COVE
OXFORD
FAIRHAVEN
SCALE OF FEET
0 500 1000 1500 2000 2500 3000 3500 4000
250
MOSS ENG. CO., N. Y.

Early in the civil war the torch of the confederate cruisers carried dismay into the northern whaling fleets. The greatest loss occurred in June, 1865, when the "Shenandoah" entered into Behring strait and deliberately proceeded to destroy the ships of the unsuspecting whalemen there pursuing their peaceful vocation. Twenty-five ships, most of them of large size, were captured and burned, besides 4 others captured and bonded. In all 50 whaling vessels were captured by the confederates, and of these 46 were burned. Of this number 28 sailed from and were owned in New Bedford. The loss of ships and outfits belonging here exceeded $1,000,000, and that of oil and bone on board was over $400,000. But the most memorable of all the disasters which have attended this perilous business was that of September, 1871, when in a single day 33 ships were abandoned in the Arctic ocean, hopelessly crushed or environed in the ice. Of these, 22 belonged in New Bedford, and were valued, with their outfits, without the oil and bone on board, at $1,090,000. The whale-fishing industry has declined from several causes—notably the discovery of petroleum and the growing scarcity of whales—until New Bedford's fleet numbers not more than one-third of the vessels it once numbered. An exhibit of the present state of the New Bedford fisheries is given a few pages on.

But long before the decline of the whale-fishery New Bedford had sought an additional field for her enterprise and capital in the establishment of cotton-mills. The first really efficient move in this direction, after the cordage factory, was the establishment of the Wamsutta mills. This occurred in 1848, with a capital of $160,000 and 15,000 spindles, increased from time to time until it has reached a capital of $2,500,000, with 153,000 spindles, an annual production of 20,000,000 yards of cloth, and a disbursement, yearly, of $650,000 for labor. Other manufacturing enterprises have followed, and the extent to which they have increased will be found in the table of "manufactures", under "New Bedford in 1880," on page 262.

NEW BEDFORD IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of New Bedford:

LOCATION.

The city lies in latitude 41° 39′ north, longitude 70° 56′ west from Greenwich, on the shore of Buzzard's bay and on the west side of the Acushnet river. The altitude ranges from the shore of the bay to 144 feet above sea-level. The inner harbor, formed by the meeting of the waters of Acushnet river and Buzzard's bay, is almost land-locked. It is commodious and secure, and has a depth at mean low water of 4 fathoms. The lower harbor is somewhat exposed to southeast gales, but has a good depth and a good holding bottom. The mean tidal rise is 4.6 feet at spring-tides. At neap-tides, or at the first and third quarters of the moon, the rise is only (mean) 2.8 feet; consequently the tidal current is weak—from one-half mile to two miles per hour during the rise and fall.

RAILROAD COMMUNICATIONS.

Two branches of the Old Colony railroad run from Boston to New Bedford, and another branch runs to Fall river, affording easy communication with all points north and west.

TRIBUTARY COUNTRY. (*a*)

The surrounding country not being very productive, its agricultural interest is limited, yet most of the people are in comfortable circumstances and live well. Ship-building, whaling, and the fisheries formerly occupied the inhabitants to a considerable extent, but, owing to the decay of these industries, very little is now done. In the early part of the century New Bedford was a distributing point to quite an extent of country, importing West India and other goods; but the trade in these articles has all gone to the great commercial cities. There is a moderate amount of supplies distributed to the neighboring towns and to Martha's Vineyard, with which there is a daily steamboat connection, but the products of the place nearly all go to the great marts of trade. Fall River, 14 miles to the west, on Narragansett bay, with its immense cotton manufactories, and Taunton, 20 miles to the north, are also distributing points, and have very little business with this place. The railroad and maritime facilities of New Bedford are ample, the location is excellent, the city is neat and attractive, and the population is generally well employed, industrious, and contented.

TOPOGRAPHY.

The soil of the site of New Bedford is diluvium, consisting of sand, loam, and gravel. All varieties of gneiss rock, flesh-red feldspar, black mica, graphic granite, and coarse garnets are found. The natural drainage is excellent, because of a slope of about 3,000 feet to tide-water. The surrounding country is quite level and has no marshes or ponds of influence. The country within a radius of 5 miles is but little wooded, and the character of the soil is similar to that of the city.

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a Furnished by Hon. W. T. Soule, mayor of New Bedford.

CLIMATE.

Highest recorded summer temperature (1818), 96°. Lowest recorded winter temperature (1861), —16°. Mean annual temperature (1813–1876), 48.7°. The influence of the adjacent waters gives pure air, softens the cold winds of winter, and sends cool breezes in summer. In winter the prevailing winds are from the northwest, with cool and clear weather; in summer from the southwest, which, coming from the ocean, give cool nights.

STREETS.

The total length of streets in the city is 110 miles. Of these, 8 miles are paved with cobble-stones, 10 miles with broken stone, and the remainder with gravel. The cost of the cobble-stone and of the broken-stone pavement is about $1 per square yard for each. The annual cost of repairing each per square yard is 8 cents for cobble-stones and 15 cents for broken stone. About the same amount of labor is required to keep each clean. Cobble-stone pavements are considered the more economical for the narrow streets of New Bedford. A large part of the sidewalks are of North River flagstones laid from 4 to 8 feet wide. During the last three or four years, some 2,500 square yards of concrete sidewalk have been constructed each year. The gutters are paved with cobble-stones, are laid quite flat, and enter the sewer at convenient intervals. The annual cost of the construction and repair of streets is $60,000. Tree-planting has been considerably practiced by abutters on the line of the curb. Most of the streets are 40 feet wide, and thus but 24 feet is left for a roadway. Most of the trees are old (elms) and large, and are, in places, almost a nuisance. The trees of the later planting are mostly maples. The annual expense for trimming the trees is $350, which is paid by the city. The work upon the streets has always been done by the day, but the opinion has been expressed that the work could be done cheaper, and perhaps as well, by contract. The city owns two stone-crushers and two road-rollers, and their use gives satisfaction. The New Bedford and Farnham street-railway has a total length of 2¼ miles, with 13 cars, 48 horses, and giving employment to 20 men. There were 728,935 passengers carried during the year, the rates of fare being 6 cents for single tickets, or five for 25 cents. The Amherst and New Bedford omnibus line has 2 vehicles and 6 horses, and employs 2 men. There were 6,500 passengers carried during the year, at 15 cents for single fares, or 8 tickets for $1.

WATER-WORKS.

The water-works are owned by the city, and their total cost to December 1, 1879, was $980,942 21. The water is conducted by gravitation to the pump-well in the city, and thence is pumped into a distributing reservoir against a head of 137 feet. High-water in the reservoir is 154 feet above high-tide, and the pressure in the mains varies from 15 to 65 pounds, with an average of perhaps 40 pounds to the square inch. The Holly system is used, with a stand-pipe in case of accident or repairs. The same regular amount—2,750,000 gallons—is pumped each day during the twelve hours' pumping, and the daily consumption varies from 2,500,000 to 3,000,000 gallons. The average cost of raising 1,000,000 gallons 1 foot high is 6.83 cents, and the yearly cost of maintenance, aside from the cost of pumping, is (1879) $7,750 42. A small number of meters are used, as the rates are too low to warrant their use to any extent, except to large consumers.

GAS.

The city is supplied with gas by a private corporation, and the charge per 1,000 feet is $2 50. The city pays for 400 gas-lamps. The Automatic Lamp and Lighting Company are lighting the city the present year. There are 1,000 lamps, and the cost for each is 5½ cents per night, all the lamps being extinguished at 2 o'clock a. m.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, 1 city hall, 3 police stations, 5 fire engine houses, 17 school-houses, and a public library. The total cost is about $290,000. The city hall is owned entirely by the city, and, with the ground, cost $70,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

Their total area is 10 acres. The chief park is in one lot in the northern part of the city; it is well laid out in lawns and walks, with ornamental trees and shrubs. On it is located the soldiers' monument, which cost $13,000. The park itself cost $50,000. In addition to the above there are two or three small squares near the center of the city. The annual cost of maintenance for the parks is $1,500. The parks are controlled by the committee on public property.

PLACES OF AMUSEMENT.

There are three halls used for entertainments, viz, Liberty, Parian, and Waite's halls. Licenses are paid for each exhibition, and amount in the aggregate to $300 annually. Liberty hall has a parquet and gallery, and seats 1,100; it is well supplied with scenery, etc. Parian hall has but one floor, and seats 500; it is also supplied with scenery. Waite's hall seats 400, and has scenery. There are no concert- or beer-gardens in the city.

DRAINAGE.

The general sewerage work was begun about 1852. "Previous to that time there had been all manner of devices to get clear of the filth, but now there is a good brick sewer in nearly every east-and-west street in our city, and drains run from nearly every house on the north-and-south streets to these sewers. The city has expended about $300,000 for sewers, and has perhaps received back about one-quarter of that amount from abutters." The expenses of the present year will be about $50,000.

The sewers seem not to be constructed according to any regular and well-defined plan; the only specification given in response to the question on this subject being that they are put deep enough for the gas- and water-pipes to run over them—say 5 feet or more.

Until this year there have been no means for ventilating the sewers, but the system of perforating the manhole covers (at intervals of 200 or 300 feet) has now been adopted. Outlets are generally so placed that they are submerged at high water and entirely exposed at low water.

The grades of the city are usually such as to cause the complete removal of whatever enters the sewers. Catch-basins are very generally used, and are regularly and frequently cleaned. As the outflow of the sewers is into the harbor, "we have to employ dredging-machines to take it out and carry it into deep water at great expense".

One-half the cost of the construction of ordinary sewers is charged to abutters, and these have the right to connect their drains with the sewers without extra charge. The large sewers serving as mains, and of a more expensive character, are paid for entirely by the city, and abutters are charged for the privilege of connecting with them. The charge upon abutters is according to frontage. Occupants of land not abutting upon the sewers are charged $10 each for the privilege of connection.

The sewers have been built by the day, and the cost of catch-basins, manholes, etc., is included in the general account.

CEMETERIES.

There are connected with the city nine cemeteries—four public and five private—as follows:

Rural Cemetery.—Situated 1¼ mile southwest of city hall; area, 100 acres.

Oak Grove Cemetery.—Situated northwest of the city; area, 50 acres.

Pine Grove Cemetery.—Situated 3 miles north of city hall; area, 15 acres.

Second Street Cemetery.—Situated three-quarters of a mile south of city hall; area, 5 acres.

These are public cemeteries.

Friends' Cemetery.—Adjoining Rural cemetery; area, 15 acres.

Hicksite Cemetery.—2½ miles south of city hall; area, one-eighth of an acre.

Congregational Cemetery.—3½ miles north of city hall; area, 3 acres.

West Cemetery.—1½ mile from city hall; area, 10 acres.

Cornell's Cemetery.—2 miles from city hall; area, one-quarter of an acre.

The five last named are private cemeteries.

In the Second Street cemetery burials are no longer allowed. No record has been kept of the number of interments, but in the future such records will be kept for each cemetery. The Friends sell no lots, but hold their ground in common. Private corporations sell lots under the ordinary restrictions. Very little is done in the way of landscape-gardening, and little revenue is derived from the sale of lots, as most of the private grounds are for neighborhood convenience. In the public burial-grounds a good deal of taste is displayed in the laying out and beautifying of the lots.

MARKETS.

In reply to the schedule of questions relative to markets, the mayor of New Bedford says:

> Some forty-five years since we built a building costing about $60,000—the lower part to be used as a market and the upper part as a hall—and for some years nearly all the marketing was done there, all the stalls being let. But after a while small private markets began to spring up in various parts of the city, and were patronized, and their number increased, and trade fell off at the city market so we could not let the stalls, and we cleared them out and made offices in their place, and now all the marketing is done at small private markets in different parts of the city. Until within a few years most of our beef was bought by butchers in Brighton market (near Boston) and brought here alive, but for the last two or three years it is mostly dressed in Chicago and brought here and stored on ice, and sold out in quantities as the trade requires.

SANITARY AUTHORITY—BOARD OF HEALTH.

The title of the chief sanitary authority is "board of health of the city and harbor of New Bedford". It is an independent body, and consists of the city physician and two persons appointed by the mayor and aldermen. The ordinary annual expense of the board is $1,000, expended for salaries of members. During an epidemic the board may increase its expenses to such amount as may be necessary. In the absence of an epidemic its authority extends to the charge of all matters affecting the public health. During an epidemic its authority is unlimited; that is, it can do all that may be necessary to prevent the spread of the disease and to control all existing cases.

The chief executive officer of the board is the chairman. The powers, duties, and salary are equally divided among the members of the board. The business of the board is transacted by daily sessions, when complaints are heard, measures are taken to abate nuisances, and anything affecting the public health is considered. One inspector is employed, who has the powers of a regular police officer, being one of the city's force, and detailed for duty under the orders of the board. As a general thing, inspections are made only as nuisances are reported, and then by the health inspector. But in all cases where it is required they are made by the chairman or by the whole board. When nuisances are reported the parties causing the same are notified to abate them. If this is not done legal measures are taken. After the board has been appointed it is free from the control of the city government. The custom concerning the inspection and correction of defective house-drainage, privy-vaults, cesspools, and sources of drinking-water is, that in all cases where complaints are made, and in all cases where zymotic diseases are reported, an inspection is made, and such action taken by the board as circumstances require. This also applies to defective sewerage, street-cleaning, etc. The board exercises the right to direct the manner in which garbage shall be cared for and removed. Burial permits are issued by the city clerk on a physician's certificate of death, approved by the board. The regulations of the board forbid the pollution of streams and harbor. The removal of excrement is also done under the direction of the board by persons licensed by it.

INFECTIOUS DISEASES.

Small-pox patients are isolated at home, or sent to the pest-house situated on Clark's point, 3 miles from the city proper. Scarlet-fever patients are quarantined at home by the order of the board. The board takes cognizance of the breaking out of contagious diseases in the public schools, by causing the sick and all members of their families to remain at home, and, in cases where it is thought best, by closing the schools. Vaccination is compulsory, and is done at the public expense for the poor.

All births are registered by the city clerk, and all deaths by the board.

REPORTS.

The board reports annually to the common council, and its report is published with the regular city documents.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its regular force. The work is done wholly by hand, no sweeping-machines being used. The more public streets are cleaned as often as they require it—perhaps once a week—while many of the outlying ones have only their gutters scraped out two or three times a year. The annual cost of the work is about $20,000. Some of the sweepings are put on to the city farm, and some in low places for filling. The system is satisfactory, but is very costly.

Removal of garbage and ashes.—All ashes and garbage are removed by the city with its own force. By regulations they are kept in barrels, etc., in yards while awaiting removal. On a certain day in the week they are set out and are carried off by the city carts. For this purpose the city is divided into six districts. Ashes and garbage are allowed to be kept in the same vessel, and both are used for making wharves. This service costs the city $1,500 per month, and includes the carrying away of all rubbish put upon the streets on the appointed day. It is thought that no nuisance or injury to health results from improper keeping of garbage on premises, infrequent removal, from improper handling, or from improper final disposal. The system is reported to work well, and gives general satisfaction.

Dead animals.—The carcass of any animal dying within the city must be buried by the owner, or, if he can not be found, it is done by order of the board of health at the expense of the city. The number so removed annually is not known, but the cost of the service is estimated at $50.

Liquid household wastes.—The waste water from sleeping-rooms is disposed of in the same way as laundry wastes and kitchen slops, nearly all passing into the public sewers, though in portions of the city where there are no sewers the wastes are allowed to run into the gutters. A very little is run into dry-wells and cesspools on the premises. Formerly there were many of them, but they are now nearly all abandoned. They are cleaned out in the same way as privy-vaults. It is reported that the well-water was more or less contaminated, owing to the escape of the contents of cesspools and privy-vaults, and now it is but little used, the inhabitants taking their supply from the water-works.

Human excreta.—All the public buildings and about one-half of the private buildings in the city are provided with water-closets, and their use is being generally extended. They nearly all deliver into the sewers; a few only deliver into cesspools. Most of the privy-vaults are nominally water-tight, and are cleaned by persons licensed by the board of health. The contents are taken out of the city in tight casks, and a disinfectant is used in the handling of the same. The dry-earth system is very little used. The night-soil is ultimately used as manure, and as the city's water-supply is taken from a distance the night-soil is seldom carried into the neighborhood.

Manufacturing wastes.—Liquid and solid manufacturing wastes are disposed of in the same manner as household wastes, the latter being carried off by the scavenger-carts and the former run into the sewers.

POLICE.

The police force is appointed by the mayor and aldermen, and governed by the mayor and committee on police. The chief of police exercises a general supervision over the force, preserves the peace, and enforces the ordinances of the city and the general laws of the state; his salary is $1,300 per annum. The remainder of the force consists of one deputy chief, at $1,000 a year; two captains, at $900 a year each; three lieutenants, at $800 a year each; and thirty-five patrolmen, at $2 a day each. The uniform is of dark-blue police cloth, single-breasted dress-coat, double-breasted surtout overcoat with gilt buttons, and a police hat. The cost of the same is $65 per man, the men furnishing their own, except the buttons, which are supplied by the city. The patrolmen are equipped with an alarm whistle and a pocket-club for patrol duty, and with a rosewood club and a black leather belt for parade. Their hours of service are ten for day, and for night two reliefs of seven hours each. The length of streets patrolled by the force is about 80 miles. During the past year there were 679 arrests made, the principal causes being for drunkenness, disturbing the peace, and larceny. Their final disposition was: the house of correction, fines, and costs. The total amount of property lost or stolen and reported to the police during the year was $2,739, and of this $1,894 was recovered and returned to the owners. The number of station-house lodgers for the same time was 483, as against 1,360 in 1879. All the lodgers are furnished with crackers only, at a cost of about 5 cents per man. The force is required to co-operate with the fire department, and one patrolman is detailed for duty at the office of the board of health. Special policemen are appointed by the mayor and aldermen, and conform to the same rules, as regards conduct, habits, etc., as the regular force. The yearly cost of the police force (1880) is, for salaries, $32,000; miscellaneous, $9,000; total, $41,000.

COMMERCE AND NAVIGATION.

[From the report of the Bureau of Statistics for the fiscal years ending June 30.]

Customs district of New Bedford, Massachusetts.	1879.	1880.
Total value of imports	$74,608	$30,000
Total value of exports:		
Domestic	$475,989	$133,316
Foreign	$1,327	$384
Number of immigrants	841	274

Customs district of New Bedford, Massachusetts.	1879.		1880.	
	Number.	Tons.	Number.	Tons.
Vessels in foreign trade:				
Entered	75	21,808	72	17,574
Cleared	69	17,472	62	13,981
Vessels in coast trade and fisheries:				
Entered	196	133,151	155	57,414
Cleared	14	4,946	6	1,601
Vessels registered, enrolled, and licensed in district	278	47,595	265	44,837
Vessels built during the year	1	303	None.	None.

SEA-FISHERIES.

The following summary, from the report of G. Brown Goode, special agent, indicates the condition of the sea-fisheries in the customs district of New Bedford, including the whale-fisheries, for the year 1880:

Total number of persons employed	4,287	Oysters ..... bushels	16,200
Total amount of capital invested	$4,329,635	Clams ..... do	10,900
Total number of vessels engaged	a160	Sperm-oil ..... gallons	1,135,260
Total number of boats engaged	659	Whale-oil ..... do	595,098
Total number of nets in use	92	Whalebone ..... pounds	242,476
Total number of traps in use	1,217	Ivory ..... do	18,100
Fresh fish ..... pounds	17,253,887	Ambergris ..... do	62¼
Fish, dried, smoked, etc ..... do	734,600	Total value of miscellaneous products	$4,460
Lobsters ..... do	174,726		

a Of this number, 128 were engaged in whale-fisheries.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of New Bedford for 1880, being taken from tables prepared for the Tenth Census by C. W. Chapman, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	330	$7,681,082	3,915	1,538	359	$2,058,751	$5,907,874	$9,835,955
Blacksmithing (see also Wheelwrighting)	22	25,150	60	.....	.....	22,596	23,200	64,425
Boots and shoes, including custom work and repairing	12	135,550	201	63	.....	90,834	252,900	386,825
Bread and other bakery products	6	73,300	85	1	.....	31,713	210,433	265,755
Carpentering	40	53,950	225	.....	.....	82,935	160,228	277,976
Carriages and wagons (see also Wheelwrighting)	5	92,000	111	.....	.....	53,466	72,396	148,236
Clothing, men's	3	8,000	3	23	.....	3,202	20,300	30,150
Confectionery	3	9,000	8	10	.....	5,700	22,040	34,140
Cooperage	13	71,600	79	.....	.....	27,200	67,150	111,880
Foundery and machine-shop products	7	252,370	205	13	.....	93,237	100,927	262,774
Furniture (see also Upholstering)	5	3,300	17	.....	.....	7,060	4,100	12,710
Leather, curried	4	46,800	60	1	.....	21,982	194,634	284,630
Leather, tanned	3	42,200	36	.....	.....	13,881	73,388	90,772
Lumber, planed (see also Sash, doors, and blinds)	4	12,600	19	.....	.....	8,328	8,548	21,500
Marble and stone work	8	10,350	39	.....	.....	18,723	10,791	35,695
Masonry, brick and stone	17	7,850	77	.....	.....	33,416	23,850	69,551
Painting and paperhanging	22	28,300	112	.....	.....	33,226	48,500	113,545
Photographing	10	110,200	143	91	.....	57,000	60,550	144,900
Plumbing and gasfitting	4	4,200	10	.....	.....	4,094	9,100	16,250
Printing and publishing	6	37,000	66	3	10	44,580	47,620	112,600
Pumps, not including steam pumps	3	3,700	6	.....	.....	1,475	1,500	4,645
Saddlery and harness	7	12,900	22	.....	1	10,240	21,500	37,930
Sash, doors, and blinds (see also Lumber, planed)	2	36,000	41	.....	.....	19,200	29,200	64,600
Shipbuilding	23	40,575	115	.....	.....	69,366	113,589	195,944
Slaughtering and meat-packing, not including retail butchering	3	18,000	10	.....	.....	2,600	205,450	232,970
Soap and candles	10	900,000	93	11	.....	49,276	1,094,373	1,288,981
Tinware, copperware, and sheet-iron ware	11	36,100	58	.....	.....	23,815	45,500	88,250
Tobacco, cigars, and cigarettes	6	11,500	15	2	.....	7,150	16,750	28,620
Upholstering (see also Furniture)	3	3,500	14	7	.....	7,000	5,800	16,000
Watch and clock repairing	4	5,900	10	1	.....	4,900	1,025	7,570
Wheelwrighting (see also Blacksmithing; Carriages and wagons)	10	6,000	18	.....	.....	6,875	6,070	19,835
All other industries (a)	53	5,583,187	1,957	1,312	348	1,194,681	2,955,202	5,416,296

a Embracing blacking; bookbinding and blank-book making; boxes, fancy and paper; boxes, wooden packing; brass and copper, rolled; brass castings; brick and tile; brooms and brushes; cleansing and polishing preparations; coffee and spices, roasted and ground; coffins, burial cases, and undertakers' goods; cordage and twine; cotton goods; drugs and chemicals; electroplating; files; flouring- and grist-mill products; furnishing goods, men's; glass; glass, cut, stained, and ornamented; hairwork; hats and caps; ink; instruments, professional and scientific; iron and steel; jewelry; kindling wood; lock- and gun-smithing; looking-glass and picture frames; mattresses and spring beds; mineral and soda waters; models and patterns; oil, lubricating; paints; paving materials; roofing and roofing materials; shirts; sporting goods; steam fittings and heating apparatus; and wirework.

From the foregoing table it appears that the average capital of all establishments is $23,276; that the average wages of all hands employed is $354 22 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is $25,537 85.

NEWBURYPORT,

ESSEX COUNTY, MASSACHUSETTS.

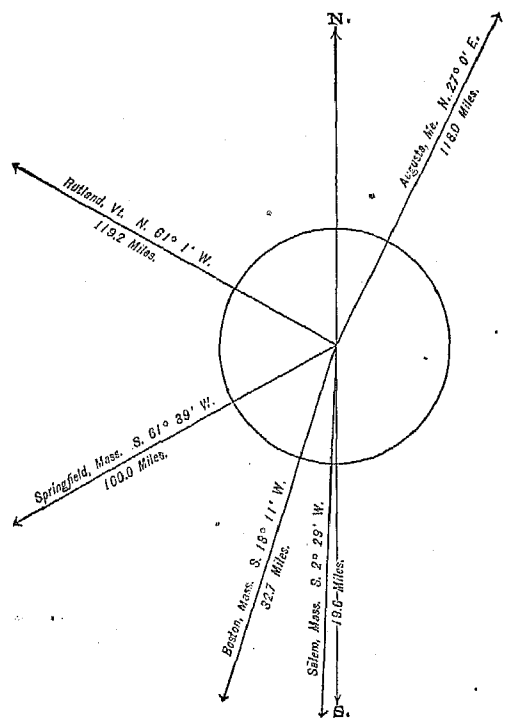
POPULATION

IN THE

AGGREGATE,

1790–1880.

	Inhab.
1790	4,837
1800	5,946
1810	7,634
1820	6,852
1830	6,375
1840	7,161
1850	9,572
1860	13,401
1870	12,595
1880	13,538



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	6,093
Female	7,445
Native	11,130
Foreign-born	2,408
White	13,470
Colored	*68

* Including 2 Chinese.

Latitude: 42° 48′ North; Longitude: 70° 52′ (west from Greenwich); **Altitude: 0 to 107 feet.**

FINANCIAL CONDITION:

Total Valuation: $7,409,588; per capita: $547 00. **Net Indebtedness: $428,706; per capita: $31 67.** **Tax per $100: $1 55.**

HISTORICAL SKETCH.(a)

"The records of the colony of Massachusetts Bay in New England" inform us that in 1635 Wessacucoa, a settlement at the mouth of the Merrimack river, was allowed by the general court to be a plantation, and that a committee was appointed to lay out as much as possible of the bounds of the new plantation, which was henceforth to be called "Newbury". The settlers of Newbury came from Wiltshire, in England, and called their new home Newbury in honor of their first minister, the Rev. Thomas Parker, who came thither from the town of Newbury, in their mother land.

a This historical sketch of Newburyport is taken almost literally from the returns made to the Census Office by Mr. Charles J. Brockway, of that city.

Territorially Newbury was one of the largest towns in Massachusetts, and the clashing interests of the agricultural and the commercial classes of its inhabitants led to disagreements, which lasted for nearly a century, and ended only in 1764, when the portion of the town on the south side of the Merrimack was incorporated as a distinct town under the name of Newburyport. The land thus set off was limited in extent, but the inhabitants—the "Waterside people", as they were called—were the most enterprising and intelligent of the citizens of the old Newbury, and soon proved that extent of territory was not the all-important element of a city's prosperity. Their maritime commerce increased rapidly. Ship-building was a leading industry of the sea-port, and was done on both domestic and English account. Wealth flowed in upon her merchants from their commercial intercourse with the West India islands and many European sea-ports, and Newburyport became a large importing town, only Boston and Salem exceeding her in population.

The exchange of domestic articles and the importation of foreign products opened and stimulated a large trade with the interior, and Newburyport continued for many years to be the market-town for a wide extent of country. The town also acquired an influential position politically and socially in Massachusetts, and was identified with many important public measures of the colonies. In the Revolutionary struggle the patriotism of the citizens was prominent and is a matter of public record. Nearly three years before the declaration of independence, at a public meeting, it was unanimously resolved "that the town will stand by the result of the congress now sitting in Philadelphia, even if it be to the stopping of all trade". In the eight years immediately succeeding the declaration the town raised for war expenses sums amounting to $2,500,000.

The first privateer fitted out from this country sailed from Newburyport and was owned by one of its citizens, and the first vessel which entered the river Thames and displayed the American flag in English waters after peace was declared, belonged to a citizen of Newburyport.

Enterprises were not confined to maritime commerce and trade. Early attention was turned to internal improvements, and one of its enterprising citizens established in 1774 the first line of stage-coaches, drawn by four horses, and citizens of Newburyport were the first to form a corporation for the manufacture of woolen cloth. No town suffered more severely than Newburyport during the European conflict with the French republic, but the losses which her merchants sustained by the depredations of England, France, Holland, Naples, and Denmark did not permanently impair the commercial prosperity of the town, as statistics show a large increase of importations in 1805. A short period of depression followed the embargo act of 1807, but in 1810 there was a considerable increase of marine tonnage and of general prosperity.

Following hard, however, upon this prosperity was the "great fire" of May, 1811, which burned over a third of the most populous part of the town and destroyed property valued at $1,000,000, in those early days and under the circumstances a large sum. This serious calamity was followed by the war of 1812, and the foreign commerce of Newburyport never recovered from the restrictive acts of our own government and the last war with Great Britain.

The peace of 1815 failed to bring with it the permanent prosperity which was expected. Ship-building on English account had ceased, as commerce was gradually diverted into new channels by the more peaceful policy of Europe, and the town was slow in recovering from its various calamities. The mackerel and cod-fishing business continued to be pursued, and to an increasing extent (a statistical account of these fisheries is given under "Newburyport in 1880"); but it was not until 1834, when cotton-manufacturing by steam-power was introduced, that the population, which had been gradually falling off, was recovered and began to increase.

The decline in the commercial importance of the town led its merchants to turn their attention to trade in other directions. In 1816 an act of incorporation was obtained for a company which was to construct a canal and utilize the upper waters of the Merrimack. By this means the merchants sought to attract to Newburyport the trade of the surrounding country, but the canal company was not sufficiently supported and the project was given up, while Boston, by the Middlesex canal, gained the important trade which Newburyport thus lost. Other enterprises were undertaken for manufacturing in a small way, such as the manufacture of hosiery, chairs, combs, etc., and the whaling business was started, though finally abandoned.

With the beginning of cotton-manufacturing in 1834, the growth of the town increased. The shoe business was also started, and this has become one of the leading industries. In 1851, after many unsuccessful attempts, another portion of Newbury, including its most populous part, was annexed to Newburyport, increasing its territory from 647 acres to nearly 7,000, and its inhabitants to 12,866, thus enabling it, in 1854, to petition the legislature for a city form of government. The charter was granted in May and accepted in June of that year, and, with a few amendments passed at various times, governs the city to-day. Newburyport is especially proud of her schools, which deservedly have ranked among the best in Massachusetts since the earliest times. The citizens enjoy the advantages of an excellent public library, which was founded in 1854 by the Hon. Josiah Little, and has received numerous donations from public-spirited citizens, among them a gift of $15,000 in 1867 from George Peabody, of London. At the end of 1880 the library had 18,604 volumes upon its shelves. The city is a beautiful one, and its citizens look forward to a constant increase in its wealth and influence.

NEWBURYPORT IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Newburyport:

LOCATION.

Newburyport is situated in northeastern Massachusetts, in latitude 42° 48′ north, longitude 70° 52′ west of Greenwich, on the Merrimack river, about 3 miles from the Atlantic. The highest point is 107 feet above the sea-level, while the lowest is on the level of the ocean tides. The usual depth of water over the shifting sand at the mouth of the river is from 6 to 7 feet at low-tide, while at the flood-tide it is from 15 to 16 feet. At the time of the spring tides, particularly if there is an east wind, the depth is sometimes increased to 19 feet. A foot or more of moving sand accumulates on the bar with the ebbing tide and is swept in by the flood-tide. The water in the channel inside the bar varies in depth from 12 to 22 feet at low-tide, and the usual rise of the tides at the wharves is 8 feet. The harbor and channel proved adequate to the demands of a very extensive commerce, which has, however, now disappeared. The strongest current in the river is at two hours' ebb, while the average velocity is about 4 miles an hour. Water communication by the river is open for sailing vessels to Salisbury, Amesbury, and Groveland; to Bedford and Haverhill, 15 miles above Newburyport, for vessels of 10 feet draught, while small steamers and vessels of very light draught pass up the river to Lawrence and Lowell.

RAILROAD COMMUNICATIONS.

The Eastern railroad, the termini of which are Boston and Portland, passes through Newburyport, and a branch road connects the city with the towns of Salisbury and Amesbury. The Newburyport railroad, which is operated by the Boston and Maine Railroad Company, divides at Georgetown, 9 miles distant, one branch extending to Bradford and Haverhill, there connecting with the Boston and Maine railroad; the other branch terminates at Danvers, uniting there with the Danvers railroad, which connects with the Boston and Maine railroad at Wakefield. Newburyport has thus two lines to Boston by the Boston and Maine railroad.

TRIBUTARY COUNTRY.

The country within a radius of 15 miles of the city includes a number of manufacturing and agricultural towns. Most of the agricultural products seek a market through Newburyport, but much of the manufactured products seeks directly the large wholesale markets. The towns of Ipswich, Rowley, Georgetown, Groveland, Salisbury, Amesbury, and Merrimack in Massachusetts, and of Seabrook, Hampton, and South Hampton in New Hampshire, are the principal tributary towns, and with Newbury and West Newbury furnish Newburyport with an important trade. Recently argentiferous ores have been discovered, and proved sufficiently valuable to extend the trade of the city slightly. The agricultural products are the ordinary fruits and cereals and milk; the manufactured products are boots and shoes, carriages, combs, hats, hosiery, and cotton and woolen goods. The water-power of the various small streams is utilized in grist- and saw-mills.

TOPOGRAPHY.

Conspicuous in the surface geology of Newburyport is a ridge of stratified gravel which divides the city proper from the farming suburbs. The direction of the ridge is northwest and southeast, and it is nearly in a straight line. On the northeast side it appears to have been acted upon by water, probably by the ocean at some distant time. The principal part of the city is built on this ridge as it gently descends to the river. On the southwest side the descent is more abrupt to a level plain raised only a few feet above the ocean-level. The soil of this plain is a modified or brick clay resting on a blue or glacial clay from 40 to 60 feet in depth. Beyond this plain and the city limits the drift deposit would be called "till". The region is marked by a great upheaval of the Laurentian and Huronian series, fractured with many fissures which contain infused mineral matter. Some of the mineral deposits which have been discovered just outside of the city limits are of importance and of economic value. The soil within a radius of 5 miles of the city is not fertile, but by a copious use of manures the farmers manage to obtain good crops. The whole land was once covered with a heavy growth of oak, which has, however, been almost entirely cut off and used in ship-building. The ponds near the city are few and small. Most of them are "cut-offs" formed by an irregular deposit of drift on the level clay.

CLIMATE.

The highest recorded summer temperature is 98°, the highest average summer temperature being 96°. The lowest recorded winter temperature is —10°, while the lowest average winter temperature is —2°. The salt water from the ocean has a perceptible effect in moderating the summer heat, while it renders the monthly average humidity 70 per cent. The prevailing winds during the summer months are from the south and west, while the winter winds are chiefly from the north and east. These winds influence the humidity greatly, keeping it much above the average of the year in summer, while it falls greatly below this average in winter. The average weekly range of temperature is 38°; the average daily range is from 16° to 20°.

STREETS.

The total length of the streets of Newburyport is 30 miles, most of which is paved with gravel. Two miles are paved with broken stone, one-eighth of a mile with stone blocks, none with wood, asphalt, or cobble-stones. The gutters are paved with cobble-stones. The cost of laying the stone blocks was $1 80 per square yard, and of the broken stone from 50 cents to $1 per square yard. The sidewalks are chiefly of gravel, brick, or concrete. The situation of the city is such that the streets are only slightly washed out by the rains. Attention has long been given to the planting of trees along the streets, and the city has a fund of $10,000, the income of which has been devoted annually to transplanting trees and improving the sidewalks. The construction and repair of the streets is done by day labor at an average annual cost of $6,000.

HORSE-RAILROADS, ETC.

The city has a horse-railway, the total length of which is 6¼ miles. It has 8 cars and 25 horses, employs 10 men, and carried during the year 189,320 passengers, at fares of 6, 10, and 15 cents. An omnibus line, possessing 4 coaches and 12 horses and employing 4 men, has recently been started. Its fare is 5 cents.

WATER-WORKS.

No general system of water-works has been constructed, and the citizens are just beginning to agitate the introduction of water. A limited supply, for use only in case of fire, has been maintained by the city at a cost, from time to time during a series of years, which may amount in all to $10,000 or $15,000.

GAS.

Newburyport is supplied with gas by a private corporation, which supplies the city at a rate of $2 75 per 1,000 feet. The streets are lighted by 289 street-lamps, of which 129 burn gas and 160 naphtha. Both are supplied by the Newburyport Gas Company at a yearly cost to the city of $14 40 per lamp.

PUBLIC BUILDINGS.

The city owns and occupies for municipal purposes the following property: A city hall, valued at $33,000; a brick market-house and an almshouse, together valued at $24,000; 10 brick and 6 wooden school-houses, valued at $101,500; and 2 brick and 4 wooden engine- and hose-houses, valued at $13,100. The public buildings of Newburyport thus represent a value of $171,600.

PUBLIC PARKS AND PLEASURE-GROUNDS.

The total area of the public parks and pleasure-grounds is about 40 acres. *Atkinson Common*, 30 acres of high land overlooking the city, the surrounding country, the Merrimack river, and the Atlantic, is being planted with trees and in other ways prepared for a public park. In the center of the city is a little park of about 10 acres surrounding a small fresh-water pond; it is shaded with elm trees, and "Bartlett mall" is considered by the citizens a gem in their city. The cost of these parks was nothing, since they were gifts to the city, and the expense of maintenance is merely nominal.

PLACES OF AMUSEMENT.

There are no theaters in Newburyport. The city hall, which seats 1,000, Fraternity hall, seating 350, Washington hall, seating 300, and Essex and Central halls, each with a seating capacity of 250, are used for theatrical performances, operas, concerts, lectures, etc. A license fee is required to be paid for all entertainments where an admission fee is charged; these licenses cost from $2 to $3 for each entertainment. No concert- or beer-gardens are found in the city.

DRAINAGE.

The situation of the city is such that no system of sewerage has been deemed necessary. The streets incline toward the Merrimack, and everything is thus easily disposed of by the surface-drainage. In a few streets near the river, brick or stone culverts have been constructed to prevent washing out the gutters. The introduction of water, which is assured in the immediate future, may render a system of sewerage essential to the public health.

CEMETERIES.

Newburyport has 8 cemeteries and burial-grounds within its limits:

Old Hill Cemetery.—Situated near the center of the city; in use since 1835.

New Hill Cemetery.—Also near the center.

The area of Old Hill and New Hill cemeteries combined is about 25 acres.

Oak Hill Cemetery.—Near the center of the city; established 1842; area, 15 acres.

Belleville Cemetery.—About 1½ mile from center of the city; area, 7 acres.

Catholic Cemetery.—Also 1½ mile from center; area, about 20 acres.

Cursan Nutt Burial-ground.—Near the northwestern boundary of Newburyport; quite small and very rarely used.

Two burial-grounds—*Saint Paul's Church-yard* and *Quaker Burial-ground*—both in the center of the city and very small, are now unused.

Oak Hill is the principal cemetery, and since its establishment in 1842 there have been 2,175 interments in it; the number of burials generally exceeds the number of deaths in the city, for many bodies are brought here for interment in the family lots. During 1880 there were 287 deaths and 309 interments in the city.

MARKETS.

There are no public or corporation markets in the city.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Newburyport is the board of health, consisting of the city physician and two others, not members of the city council, appointed by the mayor and aldermen. The term of service is three years. The annual expenses of the board are $200, but in case of an epidemic this may be increased to any amount deemed necessary by the board. The chief executive officer is the city physician, who is chairman *ex officio*, and serves without pay. The city marshal is health officer, and receives a slight payment for his services. The board meets monthly. Inspections are made regularly in all parts of the city, and especially when nuisances are reported. The board has supervision of defective house-drainage, vaults, cesspools, etc. The regulations issued by the board cover nearly all possible cases of nuisances and causes of disease.

NUISANCES.

When nuisances are reported to the board an inspection is made, and, if necessary, an order for abatement or removal is issued. If this order is disregarded, the board proceeds to make the necessary changes, and charges the expense upon the owner of the premises. Industries which give rise to noxious or offensive odors are prohibited from being established in the city. During 1880 a bone-boiling establishment on Low street gave such offense that the board obtained a promise of removal from the proprietor. Any one wishing to keep swine must obtain a permit from the board.

GARBAGE.

During the past year the board of health has undertaken to control the removal of garbage, within certain limits, and they have contracted for the removal of all house-offal. No house-offal must be cast into the streets, or into any waters within the city except at a point below low-water mark.

BURIAL OF THE DEAD.

Permits for interments must be obtained from the clerk of the board of health. A superintendent of burial-grounds is appointed annually, who has full charge of the cemeteries, and who determines the place, depth, width, etc., of all graves, which must not, however, be less than 3 feet deep to the top of the coffin. The board appoints certain undertakers annually, and these are responsible for the decent, orderly, and regular burial of all bodies placed in their charge.

INFECTIOUS DISEASES.

Small-pox patients are quarantined at home. Householders in whose house any case of small-pox, scarlet fever, measles, typhoid fever, dysentery, cerebro-spinal meningitis, or diphtheria breaks out, or any physician called to a case of these diseases, must at once notify the board of health and receive its instructions. The patients are

strictly quarantined. Should contagious diseases break out in the public schools, the board would doubtless exercise its authority in any way likely to stop the spread of contagion. Vaccination is compulsory for all children, and all teachers and scholars in the public schools, and, besides, for all employés in any manufacturing company; it is done but slightly at the public expense. A record is kept of births and deaths.

REPORTS.

The board reports annually to the city government, and these reports are published.

MUNICIPAL CLEANSING.

Street-cleaning is done by the city with its own force, and wholly by hand labor. No separate account of the expense is kept. The sweepings are deposited on the city's land.

Removal of garbage and ashes.—Garbage is removed by contractors under direction of the board of health. Ashes and garbage must be kept in separate vessels. Ashes are removed at the expense of the householders.

Dead animals are either removed by the board of health and buried or are sent out to sea. The cost of the service is merely nominal, as only few animals are removed.

Liquid household wastes are thrown into cesspools, as there are no sewers, but they must not run into the gutters. Cesspools are cleaned out under the direction of the board of health, largely by the odorless-excavator process.

Human excreta.—Nearly all the houses depend on privy-vaults, only a few of which are even nominally water-tight. The board requires that all new vaults shall be made water-tight, at least 3 feet from any party line, 6 feet from any street, and at least 2 rods from any source of drinking-water. They must be emptied at night: from April to November between 10 p. m. and sunrise, and from November to April between 6 p. m. and sunrise. The odorless-excavator process is largely used; how it affects the hours of removal is not stated. The night-soil is removed to a "dump" outside the city limits, composted, and then used as manure on lands beyond the jurisdiction of the city.

Manufacturing wastes.—As the factories are largely on the banks of the Merrimack, their liquid wastes go mostly into the river; the solid wastes are disposed of as best may be. There is no regular system of disposal.

POLICE.

The police force is appointed by the mayor and aldermen. The chief executive officer is the city marshal, who receives a salary of $900 per annum, and whose duties are the general supervision of his department. The rest of the force consists of 1 assistant marshal, salary $720 a year; 1 captain of the watch, salary $2 a day; and 8 patrolmen, who each receive $1 75 a day. The uniform is of blue broadcloth, with police buttons, and each man provides his own, at a cost of $30. On leaving the force the police buttons are returned to the marshal. The men are armed with a revolver and a club, and are on duty nine hours in summer and ten hours in winter, patrolling nearly all the streets of the city. Special policemen are appointed in the same manner, and, when on duty, receive the same pay as the regular force. During 1880 the police made 841 arrests, the principal causes being drunkenness, assault, larceny, and disturbing the peace. The larger number of the offenders were punished by fines. Property to the value of $2,430 was reported to the police as lost or stolen, and of this $1,810 was recovered and returned to the owners. There were 765 station-house lodgers in 1880, against 1,120 in 1879. Nothing but bread and water are furnished to these lodgers; the cost of this was about $150. The police must co-operate with the other departments of the city whenever necessary. The total expense of the department in 1880 was $8,250 80.

FIRE DEPARTMENT.

The fire department is governed by a chief and 6 assistant engineers, who are removable at the pleasure of the mayor and aldermen. The apparatus consists of 4 steam fire-engines, one of which is out of service; 3 hand-engines—one out of service; 1 hook-and-ladder truck and 4 hose-carriages—one of these out of service. These are managed by a force of 157 men, each of them receiving a salary. The department has 6,550 feet of leather hose, 2,000 feet of American jacket hose, and 300 feet of composition rubber hose. During 1880 the force was at 14 fires, at which the total loss was $82,590, on which an insurance of nearly $45,000 was paid. The water-supply was furnished by 71 reservoirs and 7 hydrants. The total cost of the department was $7,238 01.

PUBLIC SCHOOLS.

Newburyport has 23 schools, divided as follows: The Brown and female high schools, the Kilby school, 6 grammar, and 14 primary schools. The total attendance during the year was 2,106 from a school population of 2,488. The average attendance varied from 1,487 in winter to 1,453 in summer. The total number of teachers was 47. The total expense of the schools for 1880 was $24,590 47.

COMMERCE AND NAVIGATION.

[From the reports of the Bureau of Statistics for the fiscal years ending June 30.]

Customs district of Newburyport, Massachusetts.	1879.	1880.
Total value of imports	$6,625	$4,017
Total value of exports:		
Domestic	$5,729.	$2,750
Foreign	None.	None.
Number of immigrants	None.	None.

Customs district of Newburyport, Massachusetts.	1879.		1880.	
	Number.	Tons.	Number.	Tons.
Vessels in foreign trade:				
Entered	16	1,495	15	1,379
Cleared	17	1,685	23	2,543
Vessels in coast trade and fisheries:				
Entered	553	89,959	764	110,500
Cleared	560	91,606	754	106,075
Vessels registered, enrolled, and licensed in district	64	13,917	66	13,188
Vessels built during the year	4	1,785	4	331

SEA-FISHERIES.

The following summary, from the report of G. Brown Goode, special agent, indicates the condition of the sea-fisheries in the customs district of Newburyport, for the year 1879:

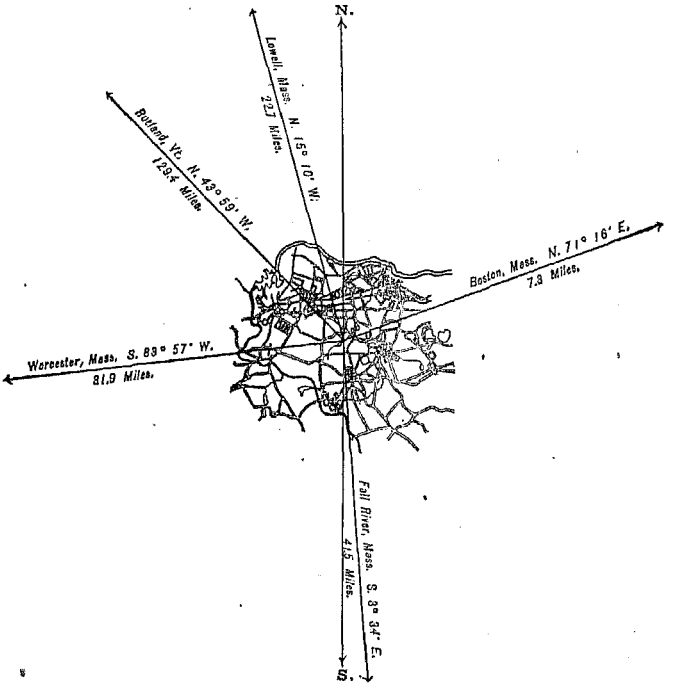
Total number of persons employed	425	Fresh fish ..... pounds	8,200,344
Total amount of capital invested	$200,686	Fish, dried, smoked, etc ..... do	1,822,050
Total number of vessels engaged	24	Clams ..... bushels	39,126
Total number of boats engaged	217	Total value of miscellaneous products	$1,937
Total number of nets in use	79		

NEWTON,

MIDDLESEX COUNTY, MASSACHUSETTS.

POPULATION IN THE AGGREGATE, 1790—1880.

	Inhab.
1790	1,360
1800	1,491
1810	1,709
1820	1,850
1830	2,376
1840	3,351
1850	5,258
1860	8,382
1870	12,825
1880	16,995



POPULATION BY SEX, NATIVITY, AND RACE, AT CENSUS OF 1880.

Male	7,580
Female	9,415
Native	12,905
Foreign-born	4,090
White	16,779
Colored	*216

* Including 4 Indians.

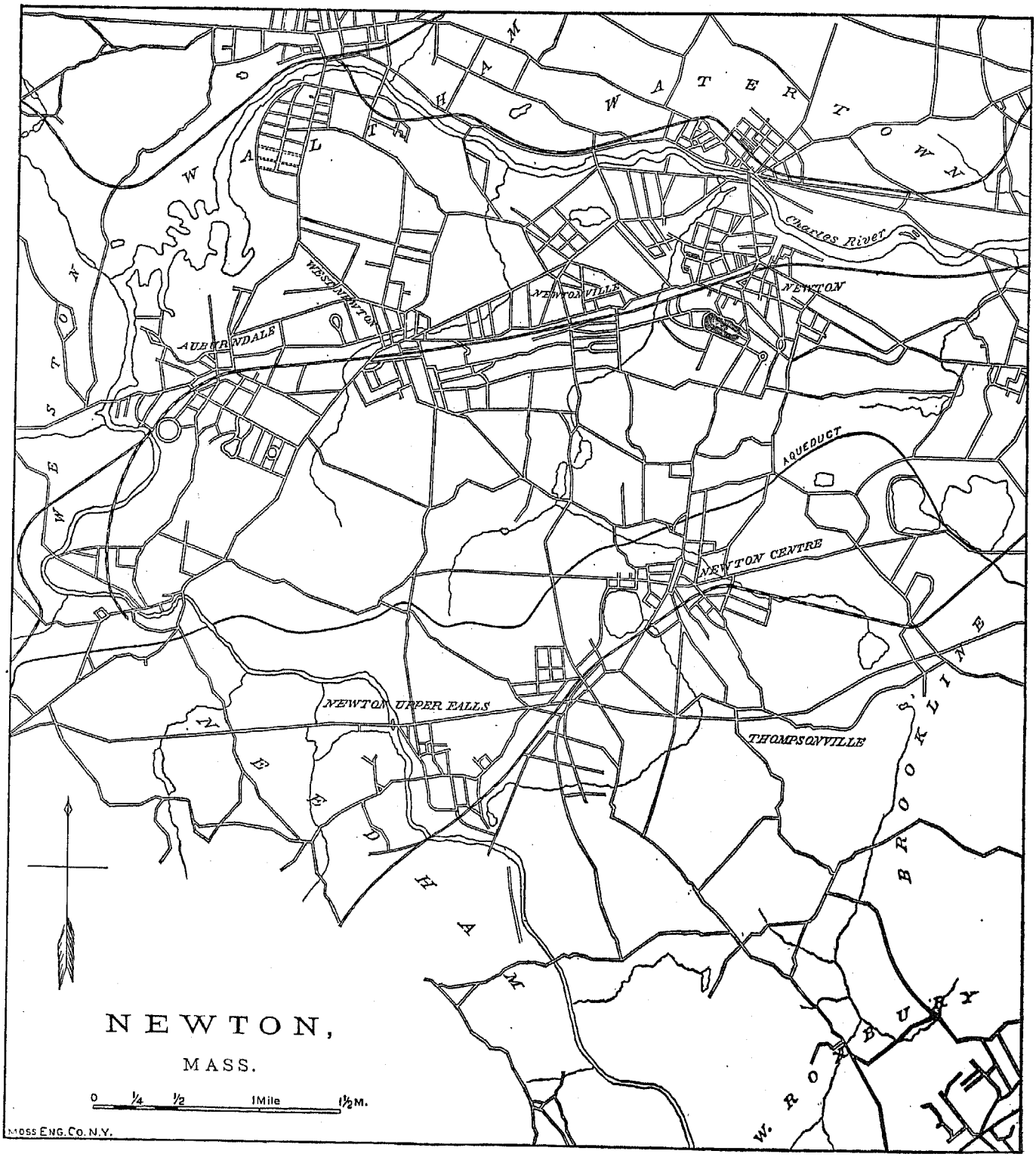
Latitude: 42° 19′ North; Longitude: 71° 12′ (west from Greenwich); **Altitude: 0 to 314 feet.**

FINANCIAL CONDITION:

Total Valuation: $23,787,362; per capita: $1,400 00. Net Indebtedness: $993,591; per capita: $58 46. Tax per $100: $1 34.

HISTORICAL SKETCH.

In 1672 that part of Cambridge lying south of the Charles river, and called "Cambridge village", or "New Cambridge", petitioned to be set off as a separate town. Though Cambridge village had received ecclesiastical privileges in 1661, and became a precinct in 1673, with authority "annually to elect one constable and three selectmen * * * to order the prudential affairs of the inhabitants there, * * * only continuing a part of Cambridge in paying county and country rates, * * * and also their proportion of the charges of the deputies of Cambridge", it was not until January 11, 1687, that the general court granted the request and incorporated the precinct as a separate town under the name it then held.


NEWTON,
MASS.
0 ¼ ½ 1 Mile 1½ M.
MOSS ENG. CO. N.Y.
WALTHAM
WATERTOWN
Charles River
WEST NEWTON
NEWTONVILLE
NEWTON
AUBURNDALE
AQUEDUCT
NEWTON CENTRE
NEWTON UPPER FALLS
THOMPSONVILLE
NEEDHAM
BROOKLINE
W. ROXBURY

In 1691 the general court acted favorably on a petition from the inhabitants of Cambridge village, or New Cambridge, and changed the name of the town to "Newe Towne", thus restoring the original name by which all of Cambridge had been known prior to 1638. The name was at first always written in two words, but in 1766 the town clerk began entering the name of the town on his records as Newton, and gradually that form was adopted, and has since continued in use.

When Newton was incorporated there were but sixty families living within the limits of its territory, the number of freemen being about 65.

The men of Newton seem to have taken an active part in all the early Indian and French wars. Though at peace themselves with the Indians in their immediate vicinity, it was, as a matter of precaution, deemed advisable to erect two block-houses as a means of protection from any probable attack. One of these block-houses remained standing until 1820. Preaching had begun in the town as early as 1656, and in 1660 the first meeting-house was built in what is now called the "Old Burial-ground". In 1699 the town voted to build a school-house 16 by 14 feet, and on January 1, 1700, a school-master was engaged to teach school four days in the week, "he to have 2 shillings per day", and "those that send children to school shall pay threepence per week for those to learn to read and fourpence for those that learn to write and cipher".

Newton increased but slowly, and on the breaking out of the Revolution her population was a little over 1,300. The town took an active part in the events preceding the war, and on June 17, 1776, the inhabitants unanimously voted to stand by the Continental congress; and, to illustrate their votes, 450 men of Newton, or 33 per cent. of the total population, served in the American army during the struggle for independence. The effect of this war on the town was severely felt, the census of 1790 showing a total population of but 1,360.

For the first half of the present century the town did not advance very rapidly, but after 1835 the opening of two railroads from Boston through its limits westward gave such increased facilities of communication that many business men of that city took advantage of the opportunity and made their homes in Newton. The water-power of the Charles river at the upper and lower falls also offered attractions to manufacturers.

Prior to 1800 this power had been utilized to some extent. At the lower falls as early as 1704 iron-works had been in operation, and a paper-mill was erected in 1790, while at the upper falls a factory for cut nails was established in 1809, and the first cotton-mill in 1814. From time to time new industries sprang into existence, not alone at the falls, but at other points along the river, until now the manufacturing of paper, cotton and woolen cloths, hosiery, cotton machinery, iron, etc., is more or less extensively carried on within the city limits. The largest of these industries at the present time is the making of paper, there being some seven or eight mills engaged in this industry alone. At one time there were silk factories at the lower falls, but for some cause the manufacture of this fabric seems to have been discontinued, or rather merged in something else. Newton was granted a city charter June 2, 1873, and it was accepted by the people, and the first city government was installed October 13 of the same year.

The population of the city now consists very largely of persons doing business in Boston, and from the number of their residences Newton has gained the *sobriquet* of the "Garden City".

NEWTON IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Newton:

LOCATION.

Newton lies in latitude 42° 19′ north, longitude 71° 12′ west from Greenwich, on the Charles river, with Boston and Brookline on the east, Watertown and Waltham on the north, Needham on the south, and Weston on the west. The average altitude above sea-level is from 30 to 200 feet, the lowest point being low-water mark and the highest 314 feet above sea-level. The Charles river is here navigable only for barges a short distance at high water. The rise and fall of the tide was not reported.

RAILROAD COMMUNICATIONS.

The Boston and Albany railroad passes through the northerly section of the city and has six stations within its limits. The Woonsocket branch of the New York and New England railroad passes through the southern section and has four stations inside the city limits. The Watertown Branch railroad also touches Newton on the north.

TRIBUTARY COUNTRY.

Newton is entirely surrounded by other towns, and outside of its own limits has no trade, except with the city of Boston.

TOPOGRAPHY.

Newton adjoins that part of Boston formerly known as Brighton, and the Charles river, on which it is situated, touches it on three sides. A ridge of hills traverses the city from east to west, Waban hill, the highest point, rising some 314 feet above sea-level. The subsoil is for the most part from a coarse gravel to a fine sand, with a gravelly clay on the side-hills. The underlying rock and outcrops are conglomerate, overlying slate and a hard, bluish-green, unstratified rock. The land is very rolling. The surrounding country is about the same as Newton, it being slightly higher on the west. There are three ponds, varying in size from 20 to 40 acres each, and about 500 acres of meadow- or marsh-land within the city limits.

CLIMATE.

No record has been kept of either the highest summer or the lowest winter temperature, nor the same for average years; but owing to its situation its climate can not differ very materially from that of Boston. The prevailing wind in summer is from the southwest, and is warm, tempered in the afternoon by the cool easterly breeze from the ocean. The prevailing winds in winter are from the west and northwest, and are cold.

STREETS.

Total length, 152 miles—102 miles having been accepted by the city, and the remainder being unaccepted. Of the accepted streets 50 miles are paved with broken stone, the other 52 miles being finished in gravel. The cost of the broken stone varies from 50 cents to $1 50 per square yard. Nearly all the sidewalks are of concrete, supported by a 7-inch granite curb 18 to 20 inches deep. The gutters are uniformly of cobble-stones. The planting of trees along the sides of the streets is allowed, and is done by the abutters. The city, however, tries to have all trees planted inside the fences instead of in a line with the curb. All street-work is done by the day, which is preferred to the contract system. The former may be more expensive, but the city deems it cheaper in the long run. Two steam stone-crushers and one steam-roller are used with good effect. The average annual cost for all street-work is from $80,000 to $100,000. Newton has no street-railroads of its own, but two lines—one from Cambridge and one from Waltham—traverse the city.

WATER-WORKS.

The water-works are owned by the city, and their total cost is $854,937 73. Water is taken from the Charles river, through filtering basins, and pumped into a reservoir on Waban hill, having a capacity of 15,000,000 gallons, and with its water-surface 265 feet above low-tide. The pumping is done by two Worthington engines, which have a combined daily capacity of 6,000,000 gallons. At the close of the present year there were 60 miles of cast-iron distribution pipes, 324 hydrants, 1,937 taps, and 467 meters in use. The annual cost of maintenance, including pumping, was $9,758 70, and the total receipts from water-rents, $33,734 58. The works are managed by a committee of the city council appointed annually.

GAS.

No information on this subject was furnished.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, a city hall, library, station-house, engine-, hook-and-ladder-, hose-, and school-houses, and an almshouse, the total valuation being $367,500. The city hall is owned entirely by the city, and cost $40,000.

PLACES OF AMUSEMENT.

There are no theaters in the city. Cole's hall and Eliot hall in ward 1, City hall in ward 2, Tremont hall in ward 3, and Mason School-house hall in ward 6, are occasionally hired for theatricals, lectures, concerts, etc. None of these halls pay any license to the city.

DRAINAGE.

The city is thus far entirely unprovided with anything like a *system* of sewers, drains having been constructed for the removal of surface- or ground-water only, and discharging into the available water-courses. No connection of private property with public sewers is allowed except for the removal of surface- or ground-water. The final outflow is into the Charles river. The whole cost for the drainage work done in the census year was $191 61. All work is done by the day and at the sole cost of the city.

CEMETERIES.

There are five cemeteries in the city, as follows:

Newton Cemetery, situated between Walnut, Beacon, and Homer streets—area, 83 acres—is owned by a private corporation:

Center Street Burying-ground, situated on Center street—area, 3 acres—is owned by the city.

West Newton Burying-ground, location not given—area, 1½ acre—is private.

Winchester Street Burying-ground, on Winchester street—area, 1½ acre—is owned by the city.

Lower Falls Burying-ground, situated on Concord street—area, 2 acres—is owned by a private corporation.

The West Newton and Lower Falls burying-grounds are in quite thickly-settled portions of the city, but the other three are not. The total number of interments in the Newton cemetery, December 31, 1880, is 2,300, the annual interments averaging 135. Burial permits are granted by the city clerk on certificates from the attending physicians. There does not appear to be any ordinance as to the limit of time after death for interments, nor as to the depth of graves. Newton cemetery, the principal one, is handsomely laid out with gravel roadways, trees, shrubs, and flowers. Lots are sold for $1 17 per square foot, which includes perpetual care of the same. The deeds do not give actual titles to lots, but merely convey a perpetual lease for burial purposes only.

MARKETS.

There are no public or corporation markets in the city.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Newton is the board of health, which, by the city ordinances, is composed of the board of aldermen. No regular appropriations are made, all expenses being classed under "incidentals" in ordinary times, and in case of an epidemic the amount would rest with the city council. The board acts under the general state laws, and has sufficient authority, in absence of an epidemic, to take all necessary steps for the general sanitary condition of the city, and in case of an epidemic, to do what may be needed to check the spread of the same. The city marshal is the executive officer of the board, and sees that all rules and regulations are properly enforced, and that all orders given are complied with. The city clerk is clerk of the board, and records all proceedings. The board meets twice a month, or oftener if necessary, and its mode of transacting business is similar to that of any legislative body. No assistant health officers or inspectors are employed. The city marshal being the health officer, he can have all the assistance he needs from the police force. No regular inspections are made. When a nuisance is reported it is either inspected by a committee or by the full board, and if found to exist, the owner is ordered to abate the same. If this is not promptly done, the board has it abated, and the expense is charged to the property on which the nuisance exists. The board exercises full control over house-drainage, privy-vaults, cesspools, etc., and the construction and care of the same must conform to the rules laid down by the board. Full control is also exercised over the conservation and removal of garbage, the pollution of streams, and the removal of excrement.

INFECTIOUS DISEASES.

Persons affected with small-pox, varioloid, cholera, or yellow fever are quarantined at home, and the board does not allow any communication with the house, except by the physicians and nurse, until all danger from infection is passed. In case the quarantine can not be made effective, the board has authority to provide a pest-house, and send such cases to it as may be deemed best. All bedding, personal clothing, etc., liable to infection must be cleansed, fumigated, destroyed, or otherwise treated, as may be ordered by the board. Children from a family where diseases of a contagious nature exist are not permitted to attend either public or private schools till all danger is passed. Vaccination is compulsory, and, in cases where persons are unable to pay, is done at public expense. All physicians called to attend any case of a contagious nature are required to report the same immediately to the board and receive instructions regarding it. The city clerk, under the state laws, keeps a record of all diseases that prove fatal, births, and deaths, and makes an annual report of the same to the secretary of state.

REPORTS.

The board makes no annual report. A list of the expenditures is given to the city auditor, and is by him included and published in his yearly statement.

MUNICIPAL CLEANSING.

Street-cleaning.—Newton is a rural city made up of villages located on the railroad lines, and none of the streets are paved. There is no street-cleaning department, nor is there any system of cleaning streets reported.

Removal of garbage and ashes.—All garbage is removed by persons who are licensed by the board of health, and who make no charge for the service. The garbage must be kept in tight vessels, properly covered, convenient for removal, and unmixed with ashes or rubbish. It must be removed not less than three times a week between April 1 and November 30, and twice a week during the remainder of the year. The garbage is fed to swine, and no injury to health is reported from the manner of its collection or from its final disposal. There are no regulations regarding the removal of ashes, other than that they must not be thrown on the street.

Dead animals.—The carcass of any animal dying within the city is removed under direction of the board of health, but the final disposal or cost of such services is not reported.

Liquid household wastes.—As no house-connections are made with the city drains, all the chamber-slops, laundry-wastes, and kitchen-slops are thrown into cesspools or privy-vaults, none being allowed in the street-gutters. The cesspools are generally porous, are not provided with overflows, and receive the wastes from water-closets.

Human excreta.—It is estimated that a majority of the houses are provided with water-closets, all delivering into cesspools. Privy-vaults are required by law to be water-tight, but the proportion that are so is not known. They must be built in a substantial manner, and no nearer than 3 feet from any party line or street. Cesspools must be of sufficient size to contain at least 80 cubic feet, and when not water-tight must be at least 20 feet from any cellar-wall and 2 rods from any well or spring. The vaults and cesspools must be cleaned out at least once a year, or when necessary to keep them from becoming offensive, by persons authorized to do the work by the board of health, and all such cleaning must be done at night. The night-soil is used for fertilizing purposes, none of it being allowed on the land within the gathering-ground of the public water-supply.

Manufacturing wastes.—There are no regulations concerning the disposal of either liquid or solid manufacturing wastes.

POLICE.

The police force of Newton is appointed by the mayor, subject to the confirmation of the board of aldermen, and is governed by the committee on police. The city marshal is the chief executive officer, has general charge of the department, and makes all criminal complaints; his salary is $1,300 a year. The rest of the force consists of a sergeant, at $950 a year, and 1 day, 2 mounted, and 11 night officers, at $900 a year each. The uniform is of blue cloth with brass buttons, and a bell-shaped cap. Each policeman furnishes his own. Each officer is equipped with a club, a pistol, handcuffs, twisters, and a whistle. The patrolmen's tours of duty average nine hours each, and the total length of streets patrolled by the force is 142 miles. During the past year there were 346 arrests made, the causes being as follows:

Assault	43	Cruelty to dumb animals	10
Disorderly conduct	12	Disturbing the peace	83
Drunkenness	70	Larceny	25
Malicious mischief	9	Violation of city ordinances	11
Violation of liquor law	25	Miscellaneous	58

Disposed of as follows:

Committed	42	Released	75
Placed on file	5	Appealed	10
Discharged	41	Fined	173

The amount of property lost or stolen during the year that was reported to the police is $4,825, and of this $3,900 was recovered and $3,729 returned to the owners. The total number of station-house lodgers was 1,100, as against 2,728 in 1879. The police are required to co-operate with the fire department in preserving order at fires; with the health department in reporting nuisances, and with the building department in reporting dangerous buildings. Special policemen are appointed by the mayor and aldermen, and have the same standing as the regular force, but receive pay only when actually on duty. The yearly cost of the police force (1880) is $16,777 94.

FIRE DEPARTMENT.

The following concerning the fire department of Newton is taken from the annual report of the chief engineer for the year ending December 31, 1880:

The manual force of the department consists of 1 chief engineer, 1 assistant engineer, 1 fire-alarm operator, 3 steam fire-engine companies of 13 men each; 1 hook-and-ladder company of 13 men, and 4 hose companies of 6 men each, making a total of 79 men. The chief engineer, fire-alarm operator, 3 engineers of steamers, and 4 drivers compose the permanent force—9 in all. The balance of the force are on call. The apparatus in active service consists of 3 steam fire-engines, 1 hook-and-ladder truck, and 7 four-wheel hose reels, carrying a total of 5,400 feet of hose. There is also a fuel-wagon used with each engine. There is 11,200 feet of hose in service—7,250 leather and 3,950 cotton hose. The fire-alarm telegraph has 33 miles of wire and 34 street signal-boxes. Water is taken

from 324 hydrants connected with the city water-works, and 13 reservoirs. During the past year there were over 39 fires and alarms. The total loss was $16,380, and the amount of insurance paid was $13,247. The total amount of insurance involved was $43,350. The total expenditure for the year on account of the fire department was $21,984 20.

PUBLIC SCHOOLS.

The following summary of statements is taken from the annual report of the superintendent of public schools for the year ending September 1, 1880:

Schools.—High school, both sexes, 1; grammar schools, both sexes, 2; grammar and primary, 12; primary, 3; whole number of day schools, 18; number of evening schools, 1. Districts with masters, 7.

School-houses.—Number of school-houses for high school, 1; school-houses for grammar and primary grades, 17.

Teachers.—In high school (males 4, females 4), 8; in grammar grades (males 8, females 28), 36; in primary grades, 24; in primary and grammar grades, 5; in evening schools, 4; special (calisthenics 1, drawing 1, military 1), 3; whole number, 80.

Pupils.—Number of pupils enrolled, 3,397; average number belonging for the year, 2,824.4; average daily attendance, 2,576.3; average percentage of attendance, 91.5; average daily absence, 248.1.

High school.—Average number of pupils, 276.6; average daily attendance, 258.4; percentage of attendance, 93.4.

Expenditures.—Total for the school-year, $83,912 50.

NORTH ADAMS,

BERKSHIRE COUNTY, MASSACHUSETTS.

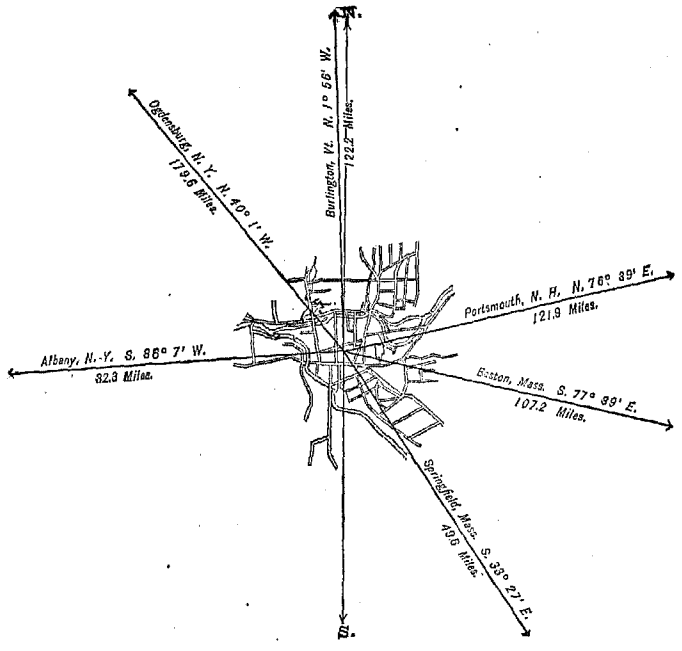
POPULATION

IN THE

AGGREGATE,

1790-1880.

	Inhab.
1790	2,040
1800	1,688
1810	1,763
1820	1,836
1830	2,648
1840	3,703
1850	6,172
1860	6,924
1870	12,090
1880	10,191



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	4,9
Female	5,2
Native	7,5
Foreign-born	2,5
White	10,1
Colored	*

*Including 19 Chinese.

Latitude: 42° 42′ North; Longitude: 73° 7′ (west from Greenwich); **Altitude: 670 to 2,600 feet.**

FINANCIAL CONDITION:

Total Valuation: $4,099,121; per capita: $402 00. Net Indebtedness: $267,895; per capita: $26 29. Tax per $100: $2

HISTORICAL SKETCH.

The town of North Adams was originally called East Hoosac. In 1749 it was explored and surveyed b committee appointed by the general court. The township was laid out 10 miles long by 5 miles wide. In 1762 township was sold by auction to Nathan Jones for £3,200. In the same year 48 settling lots of 100 acres each w laid out, and in 1776, 20 more lots were laid out, and Israel Jones, then a resident, was authorized to admit settlers in accordance with the requirements of the general court. Two years afterward the remaining lands w apportioned among the settlers. Many of the first-comers, who were chiefly from Connecticut, did not remain l Most of them sold out to purchasers from Rhode Island, many of these being Friends. Others not belonging to


NORTH ADAMS,
MASS.
SCALE OF FEET
0 200 400 600 800 1000 1200 1400
100

sect soon followed from the same state until Rhode Islanders occupied nearly the whole town. The town was incorporated October 15, 1778, with the name of Adams, in honor of Samuel Adams. The first town-meeting was held March 8, 1779, when Captains Philip Mason, Israel Jones, and Reuben Hinman were chosen selectmen.

The nuclei of the settlements in this township were a saw- and grist-mill where is now North Adams, and a grist-mill where is now South Adams. Some of the first settlers from Connecticut immediately built a meeting-house of logs near the center of the town. A church was formed and the Rev. Samuel Todd was settled as pastor. This probably took place in 1766, but the records are lost. This first church probably existed about ten years, and then, owing to the change in the character of the population already referred to, became extinct. For a period of twenty or thirty years after this there was no religious society in the place except that of the Friends. This society was formed in 1781, and met in a log dwelling-house until about 1786, when it erected a house for its accommodation. Other churches followed, the Baptists being the first to establish a regular church organization. Since the construction of the Pittsfield and North Adams railroad, completed in 1847, Roman Catholics have greatly increased in number. In 1851 they bought the former meeting-house of the Universalists and refitted it for their own use.

Manufactories of cotton and woolen goods were gradually introduced, proved successful, and added very greatly to the prosperity of the place. Chinese laborers, to the number of 40 or 50, were introduced from California about the year 1870. This enterprise was induced by troubles arising with American employés at that time. The employment of the Chinese was confined to the shoe manufactory of C. S. Sampson & Co. The experiment was very successful for the company. Within the past year, however, the Chinese have returned to China or gone elsewhere. One or two of them have become citizens. Large fires have been unusually rare, though small fires of incendiary origin have been numerous for several years. During the business depression of 1837 the town was a heavy sufferer; and again, in 1876, during a period of financial difficulty, the depression became a panic. With the exception of these periods, the progress of North Adams has been continuous. The construction of the Hoosac tunnel aided in some degree the development of the place and added somewhat to its population. The depression of 1875 and 1876 was perhaps more severely felt on account of the completion of this work in 1874 and the consequent want of employment. The industrial revival during the past two years has been very marked, and the outlook for progress was never better than now (1880).

NORTH ADAMS IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of North Adams:

LOCATION.

The town lies in latitude 42° 42′ north, longitude 73° 7′ west from Greenwich, at the junction of the North and South branches of the Hoosac river, which flows westward to the Hudson river, and in the extreme northwestern part of the state. The altitudes above sea-level are: Average, 700 feet; highest, 2,600 feet; lowest, 670 feet. The Hoosac river is not navigable here.

RAILROAD COMMUNICATIONS.

North Adams is touched by the following railroads:

The Troy and Greenfield railroad, owned, together with the Hoosac tunnel, by the commonwealth of Massachusetts, and running from Greenfield (Massachusetts) to the Massachusetts and Vermont state line. It is operated by the following companies: The Fitchburg railroad, running to Boston; the Boston, Hoosac Tunnel, and Western railroad, running to Schenectady; the Troy and Boston railroad, running to Troy. The Pittsfield and North Adams railroad, running to Pittsfield, is operated by the Boston and Albany Railroad Company.

TRIBUTARY COUNTRY.

The local trade of North Adams is small. The surrounding districts afford only inferior agricultural facilities. To the south and west the valley of the Hoosac contains the best of farming lands, and from these districts comes the larger part of the local trade. The water-power afforded by the Hoosac river is the foundation of the principal wealth of the city.

TOPOGRAPHY.

In the immediate vicinity the soil is a deep gravel, and near the river it is a loam. On the north side, where the town creeps up the mountain-side, is a light gravelly soil with underlying and outcropping rock. The rock is mostly of a mica or talcose character, together with considerable limestone and flint. The natural drainage is good,

but the dead water set back by dams causes the drainage in certain localities to be bad. The surrounding country is broken up by hills ranging from 1,000 to 3,000 feet above the town. In the surrounding country the mountains are well wooded and the soil is light; in the valleys there is little wood and the soil is deep.

CLIMATE.

No local record of temperature was obtainable. As the Hoosac river is considerably polluted by wastes of manufactories, sewage, etc., its influence is probably harmful. There are no marshes, properly so called. About 150 acres of lowland near by is kept wet by the river. Its influence is doubtful. The elevated lands seem to have some influence in increasing the severity and duration of winter weather, and the seasons generally are more backward than in the less broken country east and west. The town is more open to winds from the northwest than to those from any other direction.

STREETS.

The entire length of the streets is about 10 miles, and all are paved with gravel. For estimating the cost of construction, of repair, and of keeping clean there exist no statistics. The sidewalks are made of tar concrete with stone curbing. They are durable and generally satisfactory. The gutters are of cobble-stone paving. Tree-planting has been carried out quite successfully. It has been done, however, almost entirely through individual rather than organized effort. The construction and repair of streets is done by day work, which experience here seems to show to be preferable to contract work. Neither steam stone-crusher nor roller is used. There are no horse-railroads or omnibus lines.

WATER-WORKS.

The town is supplied with water by a gravity system—head, 200 feet; pressure, 80 pounds. The yearly cost of maintenance is $1,700. The yearly income from water-rates is $12,144. Water-meters are not used; they were tried, but were given up as unsatisfactory.

GAS-WORKS.

The gas-works are owned privately. The daily average production is 40,000 feet. The charge per 1,000 feet is $2 70. The lighting of streets by gas was abolished two years ago; they are now lighted by kerosene.

PUBLIC BUILDINGS.

The town offices are in a building rented for this purpose.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are no public parks or pleasure-grounds in the town.

PLACES OF AMUSEMENT.

There are no theaters. Traveling companies pay licenses amounting to about $125 yearly. There are two halls arranged for concerts, dramatic performances, etc.: Wilson hall, seating 600, and Armory hall, seating 700. There are no concert- or beer-gardens.

DRAINAGE.

A general system for the sewerage of this town was prepared in 1879 by F. B. Locker, the system adopted being that of the partial exclusion of storm-water, roof-water being admitted and surface-water being excluded. There are no inlet-basins. Manholes and lamp-holes are provided at junctions of branches of main sewers, and at intervals along the line.

The first public sewerage-work was done in 1879, previous to which time cesspools were used. Two streets had been sewered at an earlier date by private persons; these have been incorporated with the public system. No regular plan has been adopted, but all work must conform to the general system referred to above, location, depth, size, etc., being regulated according to the requirements of each case and brought into connection with the main sewer. No provision has been made for the ventilation of the sewers. The outlets discharge below the surface of the river at ordinary stages. No removal of deposits has thus far been necessary. The whole cost of construction is paid by the town, householders making connections with the sewers being charged from $20 upward, as the selectmen may determine. No work has been done by contract. Sewers have thus far been constructed under the direction of the selectmen and of a committee chosen by the town. The sewers are generally of vitrified pipes 6, 8, or 12 inches in diameter, and all work is regulated by engineering service. In two cases local sewers discharged directly into the river, but generally into a main intercepting sewer which leads to the river. The expenditures for sewer-work in 1880 were $3,225 97.

CEMETERIES.

There are three cemeteries connected with the town, only one being now used for interments; this covers about 23 acres and is situated about half a mile west of the center of the town. There are also, unused, an old one of about half an acre a little east of the center of the town, a private ground in the southwest part of the town, and two in the south part—in farming sections. No record is kept of the number of interments, and there are no ordinances regulating interments. The selectmen of the town have general charge of the cemeteries, establish prices for lots, etc. A sexton is chosen annually by the town, who superintends burials and has the care of the cemetery, appropriations for the latter purpose being made by the town.

MARKETS.

North Adams has no public markets, her supply of meat, fish, and vegetables being obtained from private markets or shops, the owners of which generally have their slaughter-houses in the outskirts of the town.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief health organization is called the "board of health". It is an independent board of three members, one of whom is a physician. The expenses of the board when there is no declared epidemic are very slight. During an epidemic it may increase its expenditures as far as it deems warrantable. In the absence of epidemics its authority extends to the abatement of nuisances, and the making of such regulations as it may deem necessary to protect the general health of the community; during epidemics, to the quarantining and care of cases requiring attention. No assistant health officers are employed. Inspections are not made regularly, only as nuisances are reported. The board is chosen by ballot at the annual town-meeting. As yet there is no systematic inspection and correction of defective house-drainage, privy-vaults, cesspools, sources of drinking-water, etc., the same applying to defective sewerage and street-cleaning. The board requires garbage to be removed in proper receptacles twice a week between May 1 and November 1, and once a week at other times. Concerning the burial of the dead the board exercises no authority except in the case of contagious diseases. It does not regulate the pollution of streams. Parties removing night-soil are required to cover their loads with dry earth or ashes before conveying them through the streets.

INFECTIOUS DISEASES.

Small-pox patients are quarantined at home, but scarlet-fever patients are not isolated. No contagious disease has ever yet broken out in the public or private schools. Should this occur, it would be a matter for the consideration of the board. There is no public pest-house. Vaccination is compulsory, and is done to some extent at the public expense. Statistics for the registration of diseases and births and deaths are gathered by the town clerk or by assistants who make domiciliary visits.

REPORTS.

The board reports yearly to the selectmen. Its reports are published in pamphlet form.

MUNICIPAL CLEANSING.

Street-cleaning.—Streets are cleaned both by the city and by private abutters. It is done by day work and by hand. In the main streets this cleaning is done twice a year; in other streets less often. Street-crossings, etc., are swept as often as necessary. The sweepings are used for filling streets.

Removal of garbage and ashes.—Garbage is removed by householders. While awaiting removal it must be kept in a properly-covered receptacle. Nuisances sometimes do occur from the improper keeping or handling of garbage, but its effects on the public or individual health can hardly be determined.

Dead animals.—In regard to these there are no special regulations and there is no organized system.

Liquid household wastes.—Waste water from sleeping rooms (chamber slops) are usually disposed of in the same way as laundry wastes and kitchen slops, and where sewers are built about all of the liquid household waste is run into them. A very little is run into street-gutters, and the rest, chiefly where there are no sewers, into cesspools. These cesspools are generally porous and but few of them have overflows. Where cesspools are used they also receive the waste of water-closets. But very few wells are in use. Several of these and a spring in the south part of the town were examined by the state board of health about five years ago, and were regarded as very badly polluted by adjacent cesspools, etc.

Human excreta.—About one-eighth of the houses of the town have water-closets; the rest depend on privy-vaults. About one-third of the water-closets deliver into public sewers and about two-thirds into cesspools. The proportion of privy-vaults which are nominally water-tight is doubtful. The regulations of the board of health require that no vault, unless built water-tight, shall be nearer than 2 rods to any source of water used for culinary purposes. Vaults must be cleaned and disinfected during the summer months. Parties removing night-soil from

premises are required to cover their loads with dry earth or ashes. The dry-earth system is not used to any extent. The ultimate disposal of night-soil is generally for use as manure. It is not allowed to be used for manuring land within the gathering-ground of the public water-supply, which is 4 miles away.

Manufacturing wastes.—Much of the manufacturing wastes gets into the river. This system leads to a very noticeable pollution of the river water, and has no merit except that of convenience.

POLICE.

The police force is appointed and governed by the selectmen of the town. The duties of the chief executive officer, or chief of police, are to superintend the force, attend court, and take general charge of police affairs; his salary is $2 50 per diem. The rest of the force consists of 1 captain, with a salary of $2 per day, and 2 patrolmen, at a salary of $1 75 per diem each. The uniform is of blue cloth, and is furnished by the men themselves. They are armed with clubs. The patrolmen's hours of service are from 6 p. m. to 5 a. m. for the night force, and from 5 a. m. to 6 p. m. for the day force. The length of the streets patrolled is about 2 miles, embracing a half-mile square. The force was organized in 1880 and has as yet no printed rules. The number of arrests for the year 1880 was 132, for which the principal causes were drunkenness, 71; assault and battery, 9; larceny, 9; vagrancy, 5. The offenders were convicted in the majority of cases, and were fined or imprisoned. During the year 1880 there was no property reported to the police as lost or stolen. The number of station-house lodgers during the year was 42; during the year 1879 no record was kept. A few free meals have been given to station-house lodgers during the year at a cost not exceeding $10. In the co-operation of the force with other departments of the town it is subject only to the orders of the selectmen. Special policemen are appointed by the selectmen for railroads, manufactories, and special purposes, who serve without pay from the town and have no connection with the regular force. The yearly cost of the force for 1880 was $2,548 60. Previous to the organization of the force, in 1880, the elected constables were the only officers. Also previous to this change lodgers were fed in the station-house by one man at a yearly expense of $50 to the town, including also the care of the station-house as well as of lodgers. The police have stated salaries, and turn over to the town all their fees and earnings, except witness fees.

PITTSFIELD,

BERKSHIRE COUNTY, MASSACHUSETTS.

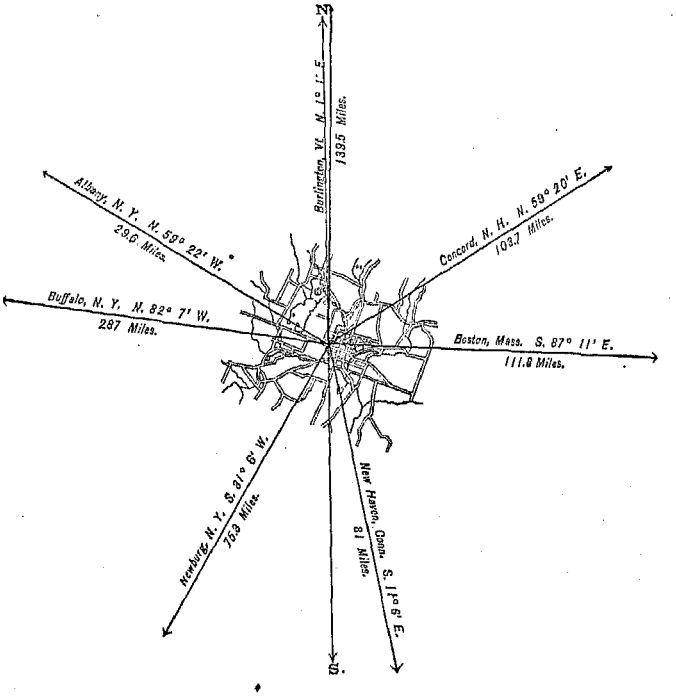
POPULATION

IN THE

AGGREGATE,

1790-1880.

	Inhab.
1790	1,992
1800	2,261
1810	2,665
1820	2,768
1830	3,559
1840	3,747
1850	5,872
1860	8,045
1870	11,112
1880	13,364



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	6,308
Female	7,056
Native	10,170
Foreign-born	3,194
White	13,035
Colored	329

Latitude: 42° 27′ North; Longitude: 73° 15′ (west from Greenwich); **Altitude: 1,000 to 1,300 feet.**

FINANCIAL CONDITION:

Total Valuation: $7,320,848; per capita: $548 00. Net Indebtedness: $385,342; per capita: $28 83. Tax per $100: $1 00.

HISTORICAL SKETCH.

On June 27, 1735, the general court of Massachusetts granted to Boston, for school purposes, three townships of land from the unappropriated land of Hampshire county, on the condition that within five years after the confirmation of the plans of these townships (which were to be returned to the court for that purpose within twelve months from the granting of the order) each one should be settled by 60 families; each family should build a dwelling-house, improve and fence in not less than 5 acres of land, and actually reside upon the spot. Provision was also made for a minister, a church, and a school, three lots, with rights in all subsequent divisions being ordered

set aside for this purpose. The three townships were numbered 1, 2, and 3, the latter being known as the "Pontoosuck plantation", near Pittsfield. But prior to this, in 1734, a grant had been made to Colonel John Stoddard, of Northampton, of 1,000 acres of the unappropriated lands of the province in the county of Hampshire, in consideration of his great services and sufferings in and for the public. This grant Colonel Stoddard had already located upon the eastern branch of the Housatonic river, within the territory which Boston had selected, and had extinguished the Indian title not alone to his own land, but to much in the vicinity.

Previous to returning the plan of the Pontoosuck township to the general court, Boston had, on March 13, 1737, sold it to one Wendall, of that town. The plan was then presented to the court, accepted and allowed the following year, 1738, on condition that the plat should not exceed 24,040 acres, and should not interfere with any former grant. This being settled, Stoddard and Wendall arranged for a joint proprietorship, the latter taking two-thirds and the former one-third of the grant, and in 1741, lots having been laid out, everything was ready for a sale. The Indian wars, however, interfered with the settlement, and it was not until 1752 that the first purchasers moved in and took up their residence. The settlement, however, hardly got a fair start, for in 1754 the few inhabitants deserted the place before an Indian raid, and fled to Stockbridge and other places more secure for safety, remaining away for nearly four years. In 1758 there were about 20 log cabins in the Pontoosuck plantations, and in 1761, April 21, the plantation was incorporated as a town, under the name of Pittsfield, there being at that time some 60 families settled there. In May of the same year the western part of Hampshire county was set off and formed into Berkshire county, with Pittsfield as one of the two county-seats.

The little settlement, shut in as it was among the Berkshire hills, was an agricultural one, and, though several fulling-mills, saw-mills, and iron-forges were erected at an early date, the chief dependence of the inhabitants was from the soil and on their cattle and sheep. As early as 1762 it was the annual practice of the farmers to hire, from outside, some 30 or 40 laborers to assist them with their crops. These laborers were usually employed for six months at a time. One of the chief obstacles confronting the people was the fact that, owing to the numerous ledges of rock with which the ground in some parts of the town was underlaid, no wells could be sunk that would admit any but impure water, and so, in building their houses, these localities, that would otherwise have been taken, were avoided. Still settlers came in, the town prospered, and in 1772 a careful census showed the number of inhabitants to be 828, or 138 families.

Pittsfield was prompt to respond to the call of her country on the breaking out of the Revolution, and contributed liberally in men and means to that war. Her soldiers were in most of the battles during the long struggle, especially in those engagements occurring along the northern frontier, and notably at the taking of Ticonderoga, and at the battle of Bennington, Vermont. Though she suffered severely during the eight years, still her increase was not checked, and she emerged from the conflict in better condition than many of the other towns in the state. Improvement went steadily on, and in 1795 Pittsfield was described by a French tourist as "a small but neat town, containing several large and handsome houses of joiner-work".

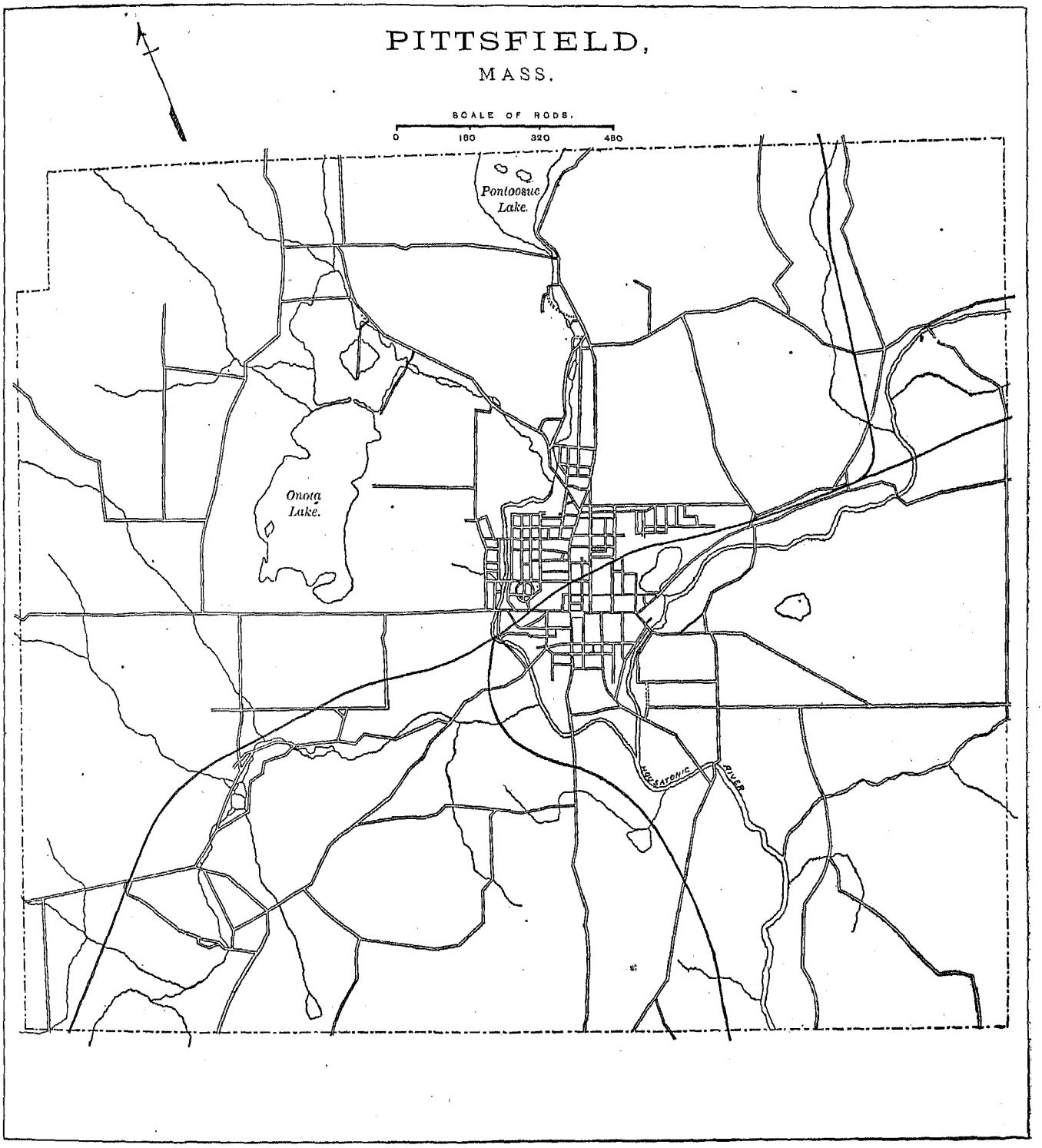
In addition to agriculture the raising of sheep became of much importance in Pittsfield, the breed having been greatly improved by the introduction of merinos, and the making of homespun woolen garments was largely done by the women of the town. It is claimed that the first broadcloths ever manufactured in this country were made here in 1804. Soon woolen-mills came into operation, then cotton- and duck-mills, paper-mills sprang up, iron axles were made, flouring-mills were established, and Pittsfield, gradually occupying the water-power within her limits, became more and more a manufacturing town. The industries increased, and a reference to the list of manufactures, under the head of "Pittsfield in 1880", will show what position the town has taken among the manufacturing towns of western Massachusetts. The opening of the several railroads that now touch Pittsfield not only gave a further impetus to her industries by providing more extended outlets for their products, but afforded the farmers a chance of other markets for their surplus crops. There have been no large fires in Pittsfield, nor have there been any periods of depression other than those that have affected the country at large. The population, though somewhat increased by foreigners drawn to the town by the several manufactures, still remains largely native-born, the descendants of the original settlers.

PITTSFIELD IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Pittsfield:

LOCATION.

Pittsfield lies in latitude 42° 27′ north, longitude 73° 15′ west from Greenwich, in the extreme western part of Massachusetts, about equidistant from its north and its south line, and only a few miles from the New York state line. Its average altitude above mean sea-level is 1,041 feet, the highest and lowest points being 1,000 and 1,300 feet, respectively, above the level. The eastern and western branches of the Housatonic unite in the town and form the main stream, which is here not navigable.


PITTSFIELD,
MASS.
SCALE OF RODS.
0
160
320
480
Pontoosuc Lake.
Onota Lake.
HOUSATONIC
RIVER

RAILROAD COMMUNICATIONS.

Pittsfield is touched by the following railroads:

The Boston and Albany railroad, connecting with Boston on the east, and with Albany and its connecting lines on the west.

The Housatonic railroad, to Bridgeport on the south.

The Pittsfield and North Adams railroad, to North Adams.

TRIBUTARY COUNTRY.

Pittsfield is the central town of Berkshire county, and, besides the woolen, cotton, and paper factories in the town, a glass factory 5 miles north, and ore-beds and iron furnaces not far distant, it has quite a large trade not only with the agricultural community in and directly around it, but also with some fine farming districts in the state of New York, a large portion of the agricultural products being sold in the town.

TOPOGRAPHY.

Pittsfield is situated midway between the Vermont and Connecticut boundaries of Berkshire county, on a plateau in the Berkshire hills. The township covers an area of some 6 miles square, the greater portion of which is moderately level, with large spaces nearly approaching the character of plains; and but few sections of the town oppose more obstacles to level streets than do many cities and towns in the state not accounted in a mountainous country. The Taconic mountains touch slightly upon the western border, and the Hoosac mountains still less on the northern. Osceola and South mountains, the only considerable elevations, cover a small territory in the south. The soil is mostly gravelly intervale land in the meadows, with some fine upland loam. The underlying rock is lime, with mica-slate. The country is rolling, with good drainage everywhere. There are a few swamps of moderate size, and six ponds, within the town limits. The country is mostly open, with occasional woods.

CLIMATE.

Highest recorded summer temperature, 95°; highest summer temperature in average years, 90°. Lowest recorded winter temperature, —30°. The surrounding hills give protection from winds, while the high elevation makes the winters cold but dry, and gives in summer a pure bracing air. The prevailing wind in winter is from the northwest, and in summer from the southwest, with occasional east winds during the year.

STREETS.

There are 70 miles of streets proper, and 66 miles of country road, in the town. All the former are laid with gravel, but no estimate of the cost can be made, as the soil itself is gravelly. Some $4,000 are expended annually on the streets proper. The sidewalks are of stone, gravel, and asphalt or coal-tar. The gutters are paved with cobble-stones. No organized attempt has been made to plant trees along the sides of the street. Many of the streets have grassed places between the curb and the walk, and outside the curb, varying in width from 6 to 10 feet. The annual cost of all street and road work is $5,000. The sidewalks are constructed and kept in repair by the abutters. All street work is done by the day. There are no horse-railroads or omnibus lines in the town.

WATER-WORKS.

The water-works are owned by the town and cost $195,091 77. Water is taken from lake Ashley and distributed by gravity, the pressure in the pipes averaging about 55 pounds to the square inch. The yearly cost of maintenance is $1,800, and the yearly income from water-rates is $16,024 87. Meters are used only to a limited extent.

GAS-WORKS.

The gas-works are owned by a private corporation, and have a daily average production of 25,000 cubic feet. The charge per 1,000 is $2 95 to $3. The town pays $22 50 per annum for each street-lamp, 110 in number, which includes lighting and putting out.

PUBLIC BUILDINGS.

The only buildings owned by the town are the engine-houses, valued at $6,000. The town hall is owned in common with private parties, and cost about $2,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

The town owns one park, with an area of three-quarters of an acre, near the center of the town proper, in which is placed the monument erected in memory of those who fell in the late war. The cost of the park, including cutting and grading, was $8,500, and the monument cost $10,000. The park is controlled by the selectmen.

PLACES OF AMUSEMENT.

There is one theater in the town, with a seating capacity of 1,170. There are three halls, with a seating capacity of 1,000, 600, and 275, respectively, that are used for concerts, lectures, etc.; there are also three or four smaller halls. None of the above pay a license or other revenue to the town.

DRAINAGE.

A general scheme for the sewerage of this town was made in 1870 by I. C. Chesbrough, C. E., accompanied by a complete plan showing the position, size, and grade of each sewer.

Work done up to 1879 was in general accordance with this plan, modified by the requirements of each case as it arose, and at a total cost, including repairs, of $47,183 87. Of this amount $19,851 43 was collected from assessments on abutting property. No private drains or water-ways were incorporated with the plan.

The sewers were originally ventilated by gullies; they are now ventilated by open house-drains and soil-pipes. The mouths of the sewers are exposed; they discharge into branches of the Housatonic river below the mill-dams.

It is stated that, in the case of sewers taking street-drainage, deposits have had to be removed by hand about twice a year. The sewers used for house-drainage have as yet had no deposit. The cost of removal as above has been about $200 per annum.

The assessment, formerly by area, is now by estimation of value or actual benefit to abutting property. Two-thirds of the cost is paid by abutters and one-third by the town.

Since 1879 all work done has been on Waring's system, storm-water being excluded, and automatic flush-tanks being used for cleansing the sewers. Under this system there has been constructed a total length of about 9,000 feet from 6 to 10 inches in diameter, at a cost of about $6,000, including the flush-tanks.

Concerning one of these sewers on Housatonic street, the following is reported:

> This sewer was laid 6½ feet deep, but in consequence of the extreme cold weather during the winter and the great depth reached by frost, it froze up at the lower end in March; it was used by only one family, and only cold water was allowed to run into it. At the upper end, which was being filled at intervals by the flush-tank, no trouble was experienced. If the sewer had been in general use, and the usual amount of water, heated for domestic purposes, had been allowed to run off through the sewer, it would not have frozen. No trouble from frost has occurred in any other sewer. The main sewer from East street was carried over the river, and has been in constant operation.

The main sewer from East street, referred to above, crosses a branch of the Housatonic river at considerable elevation on a light bridge. It is an 8-inch vitrified pipe laid in a wooden casing, the top of which is used as a foot-bridge. There is no special protection against frost, but there has thus far been no indication of freezing or of a starting of the joints by vibration.

CEMETERIES.

There are three cemeteries in Pittsfield where burials are permitted: *Pittsfield Cemetery*, on North street, with an area of 130 acres; *Catholic Cemetery*, just opposite; and *East Park Cemetery*, with an area of 1 acre, some 3 miles from the post-office. There are two small burial-lots in distant parts of the town, and a small church-yard attached to the French-Catholic church, that are no longer used for interments, the remains of those buried in the first two having been removed to the Pittsfield cemetery. The total number of interments made in all the cemeteries to the close of the present year from 1861 is 4,319. Burial permits are issued by the town clerk. Pittsfield cemetery, the largest, is owned by a corporation, and was opened in 1850. It is handsomely laid out in walks and road-ways.

MARKETS.

There are no public markets in Pittsfield.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Pittsfield is the board of health, elected annually by the town-meeting, under state laws, and is an independent body of three members, two of whom are physicians. The annual expense of the board in absence of a declared epidemic is $250 for personal services of the members, and during an epidemic there is no specified limit to which it may not be increased. The authority of the board in absence of an epidemic is almost unlimited in the abatement of causes of disease, and during an epidemic it has authority to do everything to prevent the spread of the disease. The board appoints one of its members "inspector", and he acts under direction of the board, being paid for actual services rendered.

Meetings are held when required, generally at the request of the inspector, and all questions are decided by vote. The board is controlled in its actions only by the state laws. A general inspection is made annually in the month of May, and at other times only as nuisances are reported or come to the knowledge of the board. When a nuisance is discovered it is inspected and a verbal notice given the parties responsible. If this is disregarded, a

legal notice, signed by the board, is served by a deputy sheriff, ordering the removal of the nuisance at a specified time. If this is not heeded, the board abates the nuisance and collects the cost from the person responsible. The same procedure is observed in the case of defective house-drainage, privy-vaults, cesspools, etc.

The highway department has always co-operated with the board in the case of defective sewerage, street-cleaning, etc.

The board exercises no special control over the removal of garbage unless a nuisance should arise. The board has no regulations concerning the burial of the dead, except that in cases where there is no attending physician the chairman signs the certificate.

INFECTIOUS DISEASES.

Small-pox patients are either quarantined at home, or sent to the pest-house situated on the town farm remote from dwellings, as the board deems best. Scarlet-fever patients are isolated at home. All clothing must be disinfected or destroyed, as the board may direct. Children from an infected house are not allowed to attend school until all danger from contagion is past. The school-committee is always ready to act with the board on the breaking out of contagious diseases in the public schools. Vaccination is compulsory, and at times is done at the public expense. Physicians are required to report to the board all diseases of a contagious nature.

In common with all cities and towns in the state, the town clerk keeps the record of all births and deaths.

The board reports annually to the town, and its report is published with that of the selectmen.

MUNICIPAL CLEANSING.

Street-cleaning.—The main street is cleaned at the expense of the town and with its own force, two or three times a year. The work is done wholly by hand, and when done is well done. The estimated cost is $300 a year, and the sweepings are sold for manure. The streets are broad and well graveled, and are generally cleaned when repaired.

Removal of garbage and ashes.—All garbage and ashes are removed by the householders at their own expense. There are no special regulations regarding the conservation of garbage preceding removal, other than that it must not become a nuisance or be thrown in the streets. It is carted off, and the ashes are disposed of in the same way. Though no injury to health is reported from this manner of disposal, it is recommended that it be done with regularity and under control of the board of health.

Dead animals.—There are no regulations on this subject.

Liquid household wastes.—About one-half the human wastes are run into the sewers, and the balance is thrown into vaults and cesspools, none being allowed in the street-gutters. The cesspools are generally porous and have no overflow. They receive the wastes from water-closets, and must be cleaned out when full. It is reported that very few wells in the town are used, owing to the contamination of their contents by the underground escape from cesspools and vaults.

Human excreta.—About one-third of the houses in the town have water-closets, the remainder depending on privy-vaults. One-half of the water-closets deliver into the sewers, the rest into the cesspools. Privy-vaults are required to be water-tight, unless located fully 2 rods away from any well, spring, or source of water-supply. None of them are reported as tight. In removing night-soil it must be covered with earth, and no vault within a radius of three-quarters of a mile from the park must be opened before 10 o'clock at night. There is no fixed method for the final disposal of the night-soil, and it is not allowed within the gathering-ground of the public water-supply.

Liquid manufacturing wastes are run into the stream below the mills.

POLICE.

The police force of Pittsfield is appointed by the selectmen and governed by the chief of police, in accordance with ordinances making the usual provisions. The chief is the executive officer of the force, prosecutes all violators of the laws, keeps a record of all arrests, and sees that the men under him do their duty; his salary is $2 a day. The balance of the force consists of 1 captain and 5 patrolmen, at salaries of $1 75 a day each. The uniform is of blue cloth with brass buttons, and a soft hat with a gilt cord. The uniform costs about $75 complete, and each man furnishes his own. The men are equipped with police clubs, and occasionally carry revolvers. The tours of duty average twelve hours each. During the past year 455 arrests were made by the force, the principal causes being for drunkenness and disorderly conduct. No record was kept of the amount of property lost or stolen and reported to the police, but $600 was secured and returned to owners. The number of station-house lodgers during the year was 339, as against 627 in 1879. Free meals to the value of $8 were furnished to the lodgers.

The police force co-operates with the fire department by giving alarms and protecting property and preserving order at fires, and with the health department by reporting all matters coming under its jurisdiction. Special officers are appointed by the selectmen to assist the regular force when called upon; they receive the same pay when on duty. The yearly cost of the police force is $4,500 (for 1880).

FIRE DEPARTMENT.

The following regarding the fire department of Pittsfield is taken from the annual report of the chief engineer:

The force of the department consists of a chief and 3 assistant engineers and 175 men. The apparatus consists of 2 steam fire-engines, 3 hose-carts, 1 hook-and-ladder truck complete, and 1,550 feet of hose. There are, in addition, held in reserve 2 hand-engines and 1 hose-cart. Water is taken from 75 hydrants—70 public, 5 private—and 16 tanks, the latter being kept exclusively for fire purposes, and having an aggregate capacity of 251,100 gallons. There were ten fires during the year; the total loss was $7,909; insurance paid, $1,909; and amount of insurance invested, $44,925. The annual expenditure for the fire department during the past year is $1,891 21.

PUBLIC SCHOOLS.

The annual report of the superintendent of public schools for the past year shows the total number of schools to be 45—1 high, 3 grammar, 12 intermediate, 17 primary, and 12 not classified. The average whole number of pupils belonging is 1,987, and the average daily attendance 1,774. The whole number of sittings is 2,313. The financial statement shows that the total expenditure of all kinds for the schools was $31,114 86.

SALEM,

ESSEX COUNTY, MASSACHUSETTS.

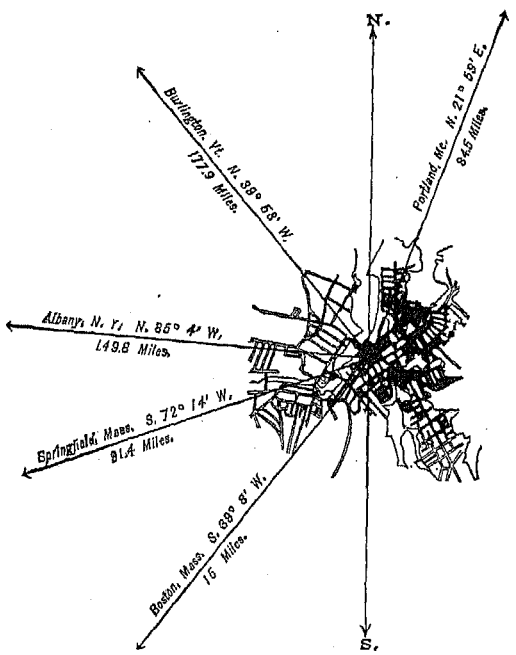
POPULATION

IN THE

AGGREGATE,

1800-1880.

	Inhab.
1790	-----
1800	9,457
1810	12,613
1820	11,346
1830	13,895
1840	15,082
1850	20,264
1860	22,252
1870	24,117
1880	27,563



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	12,589
Female	14,974
Native	20,115
Foreign-born	7,448
White	27,352
Colored	*211

* Including 3 Chinese.

Latitude: 42° 31′ North; Longitude: 70° 53′ (west from Greenwich); **Altitude: 0 to 110 feet.**

FINANCIAL CONDITION:

Total Valuation: $22,937,077; per capita: $832 00. Net Indebtedness: $1,162,488; per capita: $42 18. Tax per $100: $1 35.

HISTORICAL SKETCH.(a)

Few places in the United States have a history more replete with interesting events than has Salem, the oldest town of Massachusetts Bay, the scene of the witchcraft trials, once the foremost commercial town of America, and the home of John Endicott, of Timothy Pickering, of Nathaniel Hawthorne, and of numerous other distinguished men. In the year 1624 a body of men, followers and friends of the Rev. John Lyford, went with him from Nostasket, whither he had been compelled to withdraw from Plymouth owing to controversies with the church there, to the shore of cape Ann, where they established a station for the purpose of fishing, planting,

a By W. C. Wait, esq.

and trading. They were supported by a number of merchants of Dorchester, England, who had been incorporated as the "Dorchester Company" in 1623 for the purpose of trading at cape Ann. After a year's fruitless endeavor to make the settlement a success, the colonists, under the lead of Roger Conant, determined to leave cape Ann, and removed to the neck of land where now stands the city of Salem. Here they established themselves in 1626 and began the town of Naumkeag. The Indian tribe which had once inhabited this region had been almost exterminated by a great plague only a few years before, and the few natives still remaining were only too glad to welcome the new-comers, for from them they could receive protection against their powerful neighbors, the Tarrentines. Conant and his party, which consisted of perhaps 35 persons, met with discouragements from the very first, and only the heroic determination of the leader prevented the abandonment of the plantation. Mr. Lyford was induced to accept a call to Virginia, and did his best to persuade the other settlers to go with him. The Dorchester Company was, however, determined that the plantation should not be given up. Largely through the exertions of the Rev. Mr. White, a celebrated Puritan divine, other persons were interested in the success of the plantation of Naumkeag, and on March 17, 1628 (N. S.), a grant was obtained from the council "established at Plymouth, in the county of Devon, for the planting, ordering, and governing of New England", conveying the soil then called Massachusetts Bay to Sir Henry Roswell, Sir John Young, John Southcot, John Humphries, John Endicott, Simon Whitcomb, and their heirs, assigns, and associates. The territory thus granted extended "3 miles to the northward of Merrimack river, and 3 miles southward of Charles river, and in length, within the described breadth, from the Atlantic ocean to the South sea". Captain John Endicott was chosen governor of the colony. He sailed from England with about 100 companions, and on September 6, 1628 (O. S.), reached Naumkeag, where he was joyfully received by the little band under Conant, who thus saw the future of their town assured. A number of Endicott's followers were soon sent to make a settlement at Mishaweem, now Charlestown, and this party was followed in the next year by others.

The settlers under Conant, who are known in Salem history as "the old planters", were men of the Episcopal faith, while Endicott and his followers were Separatists, men who still loved and claimed to belong to the Episcopal Church while they repudiated its errors. This difference in religious belief was a cause of considerable dissension, which was probably in no way diminished when Conant, to whose firmness and courage the town really owed its existence, found himself displaced by Endicott, who had been appointed governor by the company in England. The troubles thus caused were happily healed, largely through the moderation and self-sacrifice of Conant, and the name Salem ("city of peace") given the town to typify the harmony thus established. On March 4, 1629, the company, which up to this time had been acting under the grant from the council for New England, received from Charles I letters patent for Massachusetts under the broad seal of England. This charter created a corporation under the name of the "Governor and Company of the Massachusetts Bay in New England", and granted full powers for the establishment of the government under which Massachusetts ruled itself until 1686. The company intended that the real government of the colony should be in the hands of the governor and assistants in England, and purposed to keep the title to the land in itself, granting it out to the colonists as tenants. These plans were, however, soon abandoned, and in 1630 the government was transferred to New England, John Winthrop being appointed governor and landing in Salem in 1630. In the previous year large numbers of settlers came to Salem, and at the time of Winthrop's arrival the town probably had about 500 inhabitants. Winthrop left Salem to found Boston, while Endicott, no longer governor, remained at Salem, which ceased to be the capital of Massachusetts Bay. The trials of the early settlers were many. Apart from the internal troubles already mentioned, lack of provisions, fear of Indian attacks, and sickness sorely tried their fortitude; but perseverance and courage conquered at length, and from 1640 Salem was a fairly prosperous place, second only to Boston in importance. Its territory included, besides the present city, the towns of Beverly, Danvers, Manchester, Marblehead, Middleton, Peabody, and part of Todsfield, Wenham, and Lynn. It was never incorporated as a town. From the beginning of the government its corporate existence was recognized, and no formal incorporation seems to have been thought necessary.

The citizens early devoted their attention to maritime pursuits. As early as 1629 a vessel was built within its borders, and one of the early writers said that Salem had more canoes than all the rest of the colony. In these rough dug-outs—for they were nothing more—the settlers used to go fowling, sometimes venturing even one or two leagues out to sea. The rivers swarmed with fish, and fishing was long the leading industry of the inhabitants.

Perhaps the most celebrated of the early inhabitants of Salem was Roger Williams, who came there in 1631 to succeed Mr. Higginson as teacher in the church. He had already made himself obnoxious to the government in Boston, by refusing to join the congregation unless it would make a public declaration of repentance for having communion with the churches of England. He remained but a short time in Salem, soon going to Plymouth to become assistant to the pastor there; but he returned later to Salem, and, again coming into conflict with the government, was compelled, in 1636, to seek safety in flight, steering his course by a rude compass through the pathless woods and the deep snows of a New England winter to the refuge he at last established in Providence. He was assisted and advised in his flight by Governor Winthrop.

The temper of the colonists may be seen from a little incident which happened in 1634. Nothing was more bitterly opposed by the Puritans than the slightest sign of "popery", and the presence of the cross in the English

banner was a constant annoyance to them. Endicott, in whom this feeling was very strong, boldly took down the flag and cut from it the obnoxious emblem. The government was compelled to take public notice of this act, which could easily be interpreted in England as an act of rebellion; and, while secretly approving Endicott's action, they summoned him before them, censured him, and ordered that he lose his election as assistant for that year.

The relations of the colony with England were peculiar, for while nominally dependent, it was practically uncontrolled, and ruled itself much as it pleased. This was a matter of great importance for Salem, which from 1640 advanced rapidly to commercial eminence. Its trade was very little hampered by restrictive laws, and its people traded very nearly where they pleased. The navigation laws of Cromwell would have been a severe blow to Salem had they been strictly enforced here, but the protector evidently winked at the evasion which he must have known took place. By 1670, however, the commerce of New England began to attract the jealousy of England, and a series of troubles began, which did not come fully to a head until 1677, when the general court ordered the navigation laws to be enforced. In 1684 Boston and Salem were made the ports of entry for the colony, and all vessels were compelled to clear and enter at one or the other. The forfeiture of the charter in 1686 placed the reins of government in the hands of the royalist governors, and this application of the navigation laws was a heavy burden upon the commerce of Salem. The depression culminated in 1692, but did not come to an end until 1711.

Although the Puritans came to America to obtain religious freedom, it was long before they were willing to grant to others the toleration they had themselves desired. Salem had among its citizens many who inclined to the Quaker belief, and the treatment it accorded them must always be a cause of regret. In 1658 Samuel Shattuck, Lawrence and Cassandra Southwick, Nicholas Phelps, Joshua Buffum, and Josiah Southwick were ordered to leave the colony; and in 1659 the two children of Lawrence Southwick, left without a home by the banishment of their parents, and shut out from assistance by the heavy penalties laid upon any who might shelter them, were arrested as vagabonds and sold as slaves. The Friends were persecuted in every way for many years, being beaten, whipped, branded, and even hanged; but in 1688 we find that a Quaker meeting-house was built in Salem.

The year 1692 marks the saddest chapter in the history of Salem—the story of the Salem witchcraft. It is impossible to understand the terrible excitement into which the witchcraft delusion threw the people of Massachusetts, without knowing something of the influences which had long been working upon their minds and which culminated in this outburst of frenzy. The material prosperity of the place was at a low ebb. The government of Andros had followed the forfeiture of their charter; their shipping was nearly ruined by the enforcement of the navigation laws; troubles with the French and Indians had kept the public mind in a state of continual anxiety, and poor harvests had contributed to increase the general gloom. But more powerful than material circumstances to move these Puritan ancestors of ours were the religious opinions then prevalent. The study of the apocalypse had led our forefathers to believe that the world was nearly at an end and that the kingdom of heaven was near at hand. Satan was doing his best to obtain souls for himself, his chain had been lengthened, and he was enjoying a short period of enlarged power before being imprisoned for all eternity in the bottomless pit. The church at Salem was thought to be a particular object of his hatred. It had been the first in the colony; here had started the earliest assault on his previously unquestioned domain; by its exertions many souls had been saved from his clutch, and now that the shortness of his reign compelled him to put forth all his endeavors to obtain subjects, this church stood as a continual stumbling-block in his path. The witches were his emissaries sent to obtain recruits to his banner from among the very members of the church, and it was his plan to overthrow the church by stirring up dissensions among its members, and thus insidiously working its destruction. The most detested of the accused were those called "covenant witches", those who had signed a book he had presented, and thus leagued themselves with him against the New England churches. The belief in witchcraft was no new thing. It prevailed at times in England, France, and Germany, and the number of executions was large. In the year 1648 Margaret Jones, of Charlestown, was executed as a witch, and the general court of Massachusetts in that year devoted considerable time to a discussion of the methods of detecting witches which were used in England, and of the best methods to use here. Three years later Mary Parsons, of Springfield, was condemned to death for being a witch, and June 18, 1651, was appointed a day of fasting, owing to the prevalence of witchcraft. Springfield had its witchcraft delusion in 1645, but although Goody Parsons was condemned, she was never executed, and Springfield escaped the stain of blood which mars the fair fame of Salem. On June 19, 1656, Ann Hibbins, of Boston, was executed for witchcraft. The excitement then passed away, to recur again in 1680, when a negro belonging to John Ingersoll, of Salem, accused Bridget Oliver of witchcraft. This woman, who, as Bridget Bishop, was twelve years later among the first to die as a witch, was at this time put under bonds for good behavior and released. The belief in witchcraft was thus very real, and one needs only to glance at the works of Cotton Mather to see how firm it was even among intelligent men.

The immediate cause of the outbreak of the delusion in 1692 was the peculiar behavior of a party of young girls who had been in the habit of meeting at the house of Mr. Parris, the minister of Salem village, and who, probably from pure fun, interested themselves in necromancy, fortune-telling, palmistry, etc. These girls were Elizabeth Parris, Abigail Williams, Ann Putnam, Mary Walcott, Mercy Lewis, Elizabeth Hubbard, Elizabeth

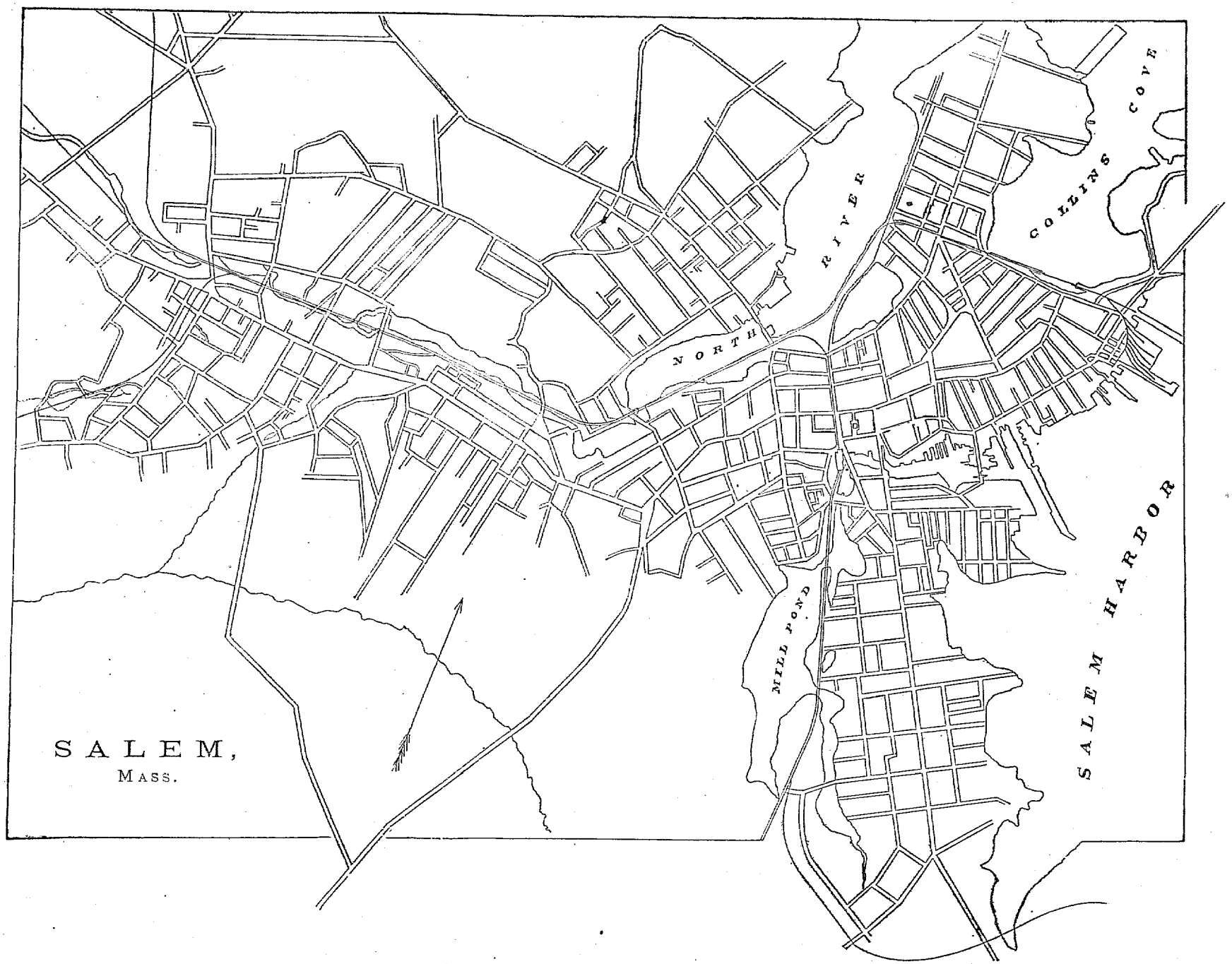
Booth, Susannah Sheldon, Mary Warren, and Sarah Churchwell. The youngest was nine years of age, the eldest twenty. The two last-named were servants in the families of John Proctor and George Jacobs, sr., and probably acted in some cases, especially in the prosecutions of their masters, from malicious motives. It was not long before their strange antics attracted the attention of the townspeople. They crawled about under chairs and tables, they made strange gestures and uttered wild sounds. They complained of being pinched and choked, and fell into violent convulsions. No one could explain their strange malady, and when the village doctor, with a learned shake of his head, pronounced them bewitched, the superstitious minds of the people received the germ which rapidly grew to the rank fungus known as the Salem witchcraft. The children were asked to tell who had bewitched them, and finally accused Tituba, an old Indian serving-woman of Mr. Parris, Sarah Good, a woman of doubtful character in the town, and Sarah Osheeru, an old bedridden woman. These were at once arrested, and on March 1, 1692, their examination was begun before John Hawthorne and Jonathan Curwin, the two leading magistrates of the vicinity. Tituba, to save herself, confessed that she was a witch and accused the two others. Thus started, the madness spread far and wide. The children who had been first affected were taken to other towns to identify witches there, and alas for those they accused! Their stories are the wildest nonsense. They tell always of persons coming to them and asking them to sign a book, and inflicting dreadful tortures on receiving a refusal. This book was said to contain the names of those who had leagued themselves with Satan. When the accused were brought into court, and the children asked to identify them, they went into awful convulsions if they did not chance to know the name of the accused, and were unable to speak until some remark of the bystanders gave them the help they needed. The few people who seemed to keep their senses and to doubt the genuineness of the children's accusations were almost immediately accused of being witches themselves. John Proctor, the master of Mary Warren, intimated that a sound thrashing would relieve the children from their enchantments, and really succeeded in freeing Mary Warren from her fits by keeping her at work and promising her a beating if she yielded to the witches. But he paid dearly for his experiment, for at the first opportunity he was accused by her, and, protesting his innocence, was condemned and executed. After the first three had been committed, no more commitments took place until March 21. They then began again, and by June 2 the jails of Salem, Ipswich, Boston, and Cambridge were full of the accused waiting for trial. A special court of oyer and terminer was appointed for the witchcraft trials. It began its sessions in June and continued until September. The accused were convicted on the most absurd testimony. Every rule of evidence was disregarded, every suggestion of common sense repelled, every thought of mercy driven away. The afflicted children were always present, ready to act as their crazy fancies dictated at the sight of the witches. The bearing of some of the accused was very grand. Stoutly denying that they were guilty, they answered completely every question of the judges, and, when convicted, were supreme in their faith that at the bar of the great Judge of heaven their accusers would be confounded, their unjust judges convinced of their error. Some were not equally brave, preferring to acknowledge themselves guilty and thus escape, for not one who confessed was executed. During the delusion nineteen persons were executed, and one, Giles Covey, was pressed to death. The story of Covey is reported as one of the grandest in human history.

About the middle of September the excitement began to abate. Instead of accusing poor old men and women and persons without influence, the accusers began to raise their voices against people of well-known integrity. They had overshot the mark; the public credulity could no longer be imposed upon; the tide turned, and, though arrests were still made, the frenzy passed gradually away, leaving behind it a lasting sorrow in the hearts of the people for the innocent blood they had shed. The true explanation of the delusion is still a matter of doubt. The children probably began in sport, but how far their later course was the result of deliberate deception on their own part or on that of their friends, and how far the consequence of diseased imaginations, can probably never be determined. That the mass of the people were honest in their belief is indubitable.

In 1711 the general court reversed the attainders on the families of those who had been executed, and in 1712 it provided a money recompense for those who had suffered in their goods during the witchcraft excitement. In all, over 150 persons were accused, 100 were imprisoned, and 20 put to death.

The period from this time to the years just before the Revolution was simply a time of general commercial advance. The people of Salem were as fierce in their opposition to England as those of the other New England towns; and they nobly refused to accept the advantage offered them when the Boston port bill closed the harbor of their rivals in trade.

Like many other New England towns, Salem claims that within her borders was shed the first blood of the Revolution. February 25, 1775, Colonel Leslie, with a regiment of British troops, landed at Marblehead and advanced to Salem to seize certain cannon stored there. Although it was Sunday afternoon, the people were soon aroused, and raising the draw at the north bridge prevented further progress of the invaders. Colonel Leslie ordered a company to fire upon the crowd, when the Rev. Thomas Barnard stepped boldly between the contestants and succeeded in effecting a compromise. The bridge was lowered, Colonel Leslie marched his troops across and 30 rods beyond it, and then facing about retreated rapidly to his ships. In a struggle between the soldiers and a party who were scuttling two gondolas to prevent their use, one man was wounded, and his blood is said to have been the first to flow in the conflict which made the colonies independent.


SALEM,
MASS.
NORTH
RIVER
COLLINS COVE
MILL POND
SALEM HARBOR

From the close of the Revolution to the beginning of the war of 1812, the vessels of Salem were displaying the American flag wherever her courageous captains could see a prospect of profitable trade. Salem first opened the trade with Sumatra, Mocha, and Madagascar; her ships were the first to represent America in the ports of Saint Petersburg, Surat, Bombay, Calcutta, and the first to make a direct voyage to Canton. To Salem came the varied products of all the world, and through Salem they were distributed far and wide. Her merchants were the merchant princes of America. The enforcement of the non-intercourse and embargo acts brought an abrupt end to the career of Salem, though after the war vessels still entered and cleared at her custom-house.

During the war of 1812 her sailors, as in Revolutionary times, became privateersmen, and 40 vessels, mounting 189 cannon and carrying 2,142 men, made the name of Salem as famous in war as it had been in peace.

Since 1812 her commerce has passed away, but manufactures have been established and prosper fairly. In 1836 Salem was incorporated as a city. Her schools have always been, from the earliest time, an object of anxious care. The churches are many, and are filled each Sabbath with worshipers, who, however much they may differ in theology from the little band which in 1629 established the first church, still preserve the genuine worth of their Puritan ancestors and the true essence of their stern faith.

SALEM IN 1880.

LOCATION.

Salem lies in latitude 42° 31′ north, longitude 70° 53′ west from Greenwich, on a tongue of land formed by two inlets of the sea, on the northern coast of Massachusetts, about 14 miles northeast of Boston. The lowest point is high water, and the greatest elevation in the city proper is 28 feet above sea-level, the highest outlying point being Gallows hill, 110 feet above mean high water. The harbor, which is an arm of Massachusetts bay, has an area of about 1 square mile, and is well protected by Salem Neck on the north and Marblehead on the south. The draught of water at the wharves (except where dredged) is equal to the rise of the tide—about 9 feet. Dredging has made the draught at some points 15 to 19 feet at low tide. The channel capacity is good, with a draught of 4 or 5 fathoms at low water. No river affects the tidal current.

RAILROAD COMMUNICATIONS.

Salem lies on the Eastern railroad, whose termini are Boston and Portland. It has also steam-railway connection with Marblehead, Danvers, Peabody, Lowell, Lawrence, and Gloucester.

TRIBUTARY COUNTRY.

Salem is the natural trade-center of about 50,000 persons, and, but for the proximity (by rail) of Boston, would supply a large portion of this number. The country tributary to Salem is both sea-board and inland. The great fishing industries of the sea-board towns of Massachusetts have mostly disappeared, and with them their trade with Salem. The inland towns of Peabody and Danvers and a considerable number of towns more remote from Salem have large agricultural tracts which are tributary to its produce markets.

TOPOGRAPHY.

The rocks underlying the city belong to one of the oldest crystalline formations, and are mainly eruptive. The principal varieties are diorite, diabase, and syenite. Dikes of these rocks are very numerous and have been formed at many different periods. The central part of the city rests on a drift deposit and the solid rocks are concealed; but on the west and south sides of the city and on Salem Neck the ledges are abundant and prominently placed. The surface is undulating, and becomes quite rugged toward the west and south. The surrounding country is mostly open, and becomes gradually higher away from the city. The natural drainage of the city is into the harbor, by which it is almost surrounded, and the drainage of the adjacent country is very direct, since the land is penetrated by arms of the sea. The soil of the city and surrounding region is mostly dry and but moderately productive. There are no considerable marshes or lakes near at hand.

CLIMATE.

Highest recorded summer temperature, 101°. Lowest recorded winter temperature, −13°. The influence of adjacent waters causes snow to melt more rapidly than farther inland, and the temperature in winter to be higher, in summer to be lower. The south winds are cool and refreshing in summer; the east winds are damp and unpleasant.

STREETS.

The total length of streets is 38 to 40 miles, paved as follows: Cobble-stones, one-third mile; stone blocks, 1⅝ mile; broken stone, 4½ miles; and gravel, about 32 miles. The cost of block-paving per square yard is about $2, and this pavement is the best and most easily kept clean. The cost of keeping pavements in repair can hardly be estimated. The sidewalks are of brick and of concrete. The gutters are paved with cobble-stones. Trees are planted by abutters at the sides of the streets. Work is done upon the streets by the day, at an average annual cost of about $42,000. Experience here indicates a preference for day work, as better work is secured. A steam stone-crusher is used to some extent, but most of the stone is broken here by hand, as it can be done at less cost.

HORSE-RAILROADS, ETC.

The horse-railroads in the city are a little over 9 miles in length, with 42 cars and 72 horses, and give employment to 36 men. There were 821,856 passengers carried during the year, at rates of fare varying from 3 to 10 cents. One omnibus line, between the city and Danvers, has 2 vehicles, 8 horses, and 2 men employed, and annually carries 2,000 passengers at fares varying from 5 to 15 cents.

WATER-WORKS.

The works for the public water-supply are owned by the city, and their total cost to December 1, 1879, was $1,388,155 48.

The water is pumped from Wenham lake (which is 30 feet above mean high-tide) into a reservoir of 112 feet lift, through a force-main 5,600 feet in length; the average pressure is 50 pounds. The amount per diem varies from 2,750,000 gallons to 2,250,000 gallons, pumping but five days per week. The average cost of raising 1,000,000 gallons 1 foot high is 9⅓ cents. The yearly cost of maintenance, aside from the cost of pumping, is $11,000. The yearly income from water-rates is $49,000. Piston and rotary water-meters are used mostly by manufactories; they prevent waste of water.

GAS-WORKS.

The gas-works are a private enterprise. The daily average production is about 100,000 cubic feet. The price per 1,000 feet is $2 70. The city pays for gas for street-lamps $2 55 per 1,000 feet. The lamps number 405.

PUBLIC BUILDINGS.

The city owns and occupies for municipal purposes the city hall, town hall, almshouse, police-station, buildings for stables and light-department, storehouse, and workshop of water department, and eight engine-houses. The total cost of municipal buildings belonging to the city is $155,000. The original cost of the city hall, built in 1837, was $23,000, being taken from the city's portion of the surplus revenue of the United States distributed in 1836. In 1876 extensive alterations and renewals were made, at a total additional cost for building and furnishing of $24,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

Salem has one park containing 8½ acres, lying near the center of the town. It is planted with elms and laid out with walks. It is surrounded by an iron fence with gateways. It was originally a swamp, and was not divided among the original settlers when the other land was apportioned. The following is stated in reference to the subject:

> The common, or square, is open at all times, and as it offers ordinarily no special attraction except shade and pure air, no special regulations or control have been found necessary. It contains no drive-way and no place of amusement. The original cost was nothing, and little money has been spent on it. The number of visitors is not great, but we have no means of estimating it. It is now a level lawn with no structure on it except a flag-staff in the center.

PLACES OF AMUSEMENT.

Salem has one theater, called "Mechanic hall", with a seating capacity of 1,100. Theatrical companies pay a license fee of $5 per evening, or about $225 annually. Besides this, there are Lyceum hall, Plummer hall, Howard hall, Grand Army of Republic hall, Huba hall, Town hall. Also a large building at the sea-shore (Salem Neck) belonging to the Salem street-railway, and used for entertainments in the summer, with a seating capacity of 4,500. There are within the city no concert- or beer-gardens.

DRAINAGE.

The construction of public sewers in this city was begun in 1867. Up to the present time about one-half of the city has been sewered. There are but few private drains, and most of these have been connected with the sewers.

A regular plan is reported as adopted in 1874, which has been followed to this time; but it is stated that Salem has no city engineer, and the information received as to the plan is extremely meager.

There is no provision for the ventilation of sewers; their mouths are exposed, and their outflow is left to take care of itself. There is "very little" removal of deposits, and the cost of this work is "trifling".

Previous to 1877 an assessment equal to three-quarters of the cost of the sewer was made on abutters in proportion to the valuation of land; since 1877 by the front foot; also "persons connecting their estates with public sewers have been charged a reasonable sum for the permanent privilege".

Sewers are constructed under the direction of the commissioner of streets, not by contract. The material used is chiefly cement pipe; $17,381 was expended in 1880, which included the cost of sewers, catch-basins, and manholes.

The following are among the provisions of the city ordinance relating to drains and sewers:

The commissioner of streets shall, under the direction of the board of aldermen, have the general supervision of all main drains and common sewers which now are or may hereafter be built or owned by the city, and he shall have charge of the building and repairs of the same.

The commissioner of streets, whenever any main drain or common sewer is ordered to be built or repaired, shall ascertain its depth, dimensions, mode of construction, and general direction, and insert the same on the plans of sewerage, or file in the city clerk's office, specifying particularly the depth thereof, and its distance from the street lines. He shall also from time to time ascertain and insert on said plans the particular location of all private drains entering into such drain or sewer.

The board of aldermen may by vote determine that, instead of paying an assessment, every person who enters his particular drain into such main drains or common sewers, or uses the same in any way, shall pay for the permanent privilege to his estate such reasonable sum as they shall determine.

* * * Plans and descriptions of all main drains and common sewers belonging to the city, with a true record of charges of making and repairing the same, and of all assessments therefor, shall be kept in the office of the city clerk.

The board of aldermen, in all cases where there is a main drain or common sewer in any street or way, shall have authority, whenever in their opinion it shall be necessary for the public health, to cause every owner of land adjoining such street or way, his agent or tenant, to make a sufficient drain from his house, yard, or lot, and to enter the same into the main drain or common sewer.

All particular drains which shall enter into any main drain or common sewer shall, so far as the same shall be constructed within the limits of any street or way, be built of such materials, of such size, and in such manner and direction as the board of aldermen shall direct, and shall be laid under the direction of the board of aldermen; and all openings into a main drain or common sewer for the purpose of connecting a drain therewith, and all work done in constructing or repairing drains from any house, cellar, yard, or other premises connecting with such main drain or common sewer, and all openings or excavations into any street or way for the purpose of constructing or repairing any private drains, shall be executed by the commissioner of streets or by persons licensed in writing for that purpose by the board of aldermen.

If any drain in any street or way be constructed or repaired, or any excavation be made for that purpose, by any person not duly licensed therefor, the person doing such work, and the owner, tenant, or agent directing the same, shall each be liable to a penalty not exceeding twenty dollars.

The sewerage question has long been prominent in Salem, and various committees and commissioners and experts have expressed their opinion and given their advice thereon. In 1877 there was published an elaborate "report of the commission chosen to investigate and report upon the drainage and sewerage of the city of Salem under order of the city council". In this report it is stated that "complaint is made that during much of the time of the warmer six months of the year the air of our city is offensive to the nostrils; that the health of our people is suffering; and that the source of these evils is to be found in the defectiveness and insufficiency of our system of sewers".

We do not think it necessary to cite the testimony of individuals to prove the fact that our citizens are afflicted with foul odors. These have been too generally recognized and experienced to need description. * * *

They may seem but mildly disagreeable to some, be a possible discomfort to others, are a real affliction to yet others, and produce actual distress in not a few. They blight hours of refreshment and recreation in the open air; they make the fresh breezes which are sought for physical renewal repulsive; they convert the pleasure of breathing into a reluctant inhalation of airs which are instinctively felt to be baneful; they make the cool air of summer nights, needful to restful sleep, loathsome, so that many feel compelled to sleep in heated rooms with closed windows.

These annoyances when protracted are by no means trifling. When continued through a warm season they intensify the debilitating effect of the heat of the summer, and discourage, dishearten, and prostrate such of the weary and ill whose means or sickness will not allow them to go for a renewal of health into the country.

The sources of the evil complained of are quite numerous; prominent among them is the mill-pond, which covers some 60 acres:

The water is not deep, but the bottom of the pond is covered with a deposit of black mud to the depth of a few feet. The ulva (sea-cabbage), a plant belonging to the family of algæ, grows at the bottom of the pond in great quantities. After a few days of heat these plants become detached from their places, and, decomposing, rise to the surface, where they float in large patches, in company with seaweeds and eelgrass which has been brought in with the tide. They then throw off the fetid gas, sulphureted hydrogen, which when produced in large quantities turns white paint and silver-ware black. Unpleasant as this may be, it can not directly be proven to cause sickness; but in the mill-pond this is not the only trouble. The worst feature of the case is the large quantities of sewage which finds its way into the pond and is there deposited.

The water by means of which the pond is refreshed at every tide comes from the open harbor at a point beyond Derby wharf, from whence it passes through the narrow space between the Naumkeag mills and the wharf, then turning to the end it passes the ends of all the Derby and Peabody Street wharves, and through a run-way beneath the railroad to the pond, thus, as it were, running the gauntlet of the principal sewer-outlets of the city. The following sewers and drains discharge directly into the mill-pond: Ropes street, Downing street, Hawthorne street, glue factory, on the turnpike (now Highland avenue).

And the following between Derby wharf and the mill-pond: Creek street (including Summer, Chestnut, Warren, a part of Essex, etc.), Washington street, Central street, Liberty street, Elm street, Naumkeag factory.

Besides the above, private drains and surface gutters add their mites to the mass.

With every incoming tide a portion of the sewage from all these outlets is carried back to the pond, and there deposits its solid matter, either on the bottom of the pond or on the docks between the pond and Derby wharf.

The culvert connecting the upper pond with the main pond is barely of sufficient size for the work it has to perform, even with the reduced size of the ponds since the filling of 1876, and it should be kept carefully cleared from the rubbish which frequently accumulates on it.

The sewage from the glue factory on the turnpike comes to the pond by the brook into the west branch.

Another is the North river, which is the natural outlet for the drainage of an area of about 14 square miles, including the populous part of Peabody, where it receives the house and street sewage of the town and the refuse from manufactories, bleachery, glue-works, and numerous tanneries. While the amount of sewage is small in proportion to the volume of the stream, the use of the natural brooks and streams affords a ready and cheap conveyance of it, which is not objectionable if no injury is caused to parties lower down, who have the same right to use it for their sewage, and also to be protected from the effects of a nuisance. But as population and business increase, it usually happens that the amount of sewage put into the water is increased, while at the same time the capacity of the streams is diminished by fillings and obstructions to the flow of water, and they become so foul as to create a nusiance in their open state, and are finally walled in and turned into sewers without much consideration, other than to provide the cheapest and quickest mode of putting out of of sight an unclean thing. This process has been going on with the stream in Peabody, and the inhabitants, unable longer to endure the stink of their own making, have walled and covered it in. Then, aided by the rapid fall, they are enabled to deliver it over the border, in its full strength and perfume, without annoyance to any considerable numbers of their own, save on occasion when the vexing winds bear back to them the rank odor of their offense. After it comes to us we continue the same treatment and constantly add to the filth of the water. Just below the boundary line Frye's mill-dam holds back the flood and forms an elongated precipitating-basin for the deposit of solid matters held in suspension, there to fester and rot. No description of the black Stygian wave passes the reality of the stream at this point.

The following is the commissioners' general description of the conditions to be met:

Our city is well situated for drainage of its ordinary sewage and for securing the conditions requisite to health. It is naturally divided into two main drainage districts, the slopes on either side of North river forming one and those toward South channel and the mill-pond the other. Three smaller districts may in the future require independent provision, viz, the slope of South Salem toward the harbor, that of North Salem toward Beverly, and the portion that drains into Collins cove. If proper provision is made for the two main drainage districts, no difficulty will be experienced from the smaller amount of sewage afforded by the smaller ones for many years, if at all. The amount of sewage there is so small in proportion to the volume of water with which it is mingled that no serious consequences can probably arise from continuing to discharge as it now goes, except possibly in the case of Collins cove, which may require attention.

There are now about 9 miles of sewers in the city, mostly well constructed and of sufficient size to take off the sewage and storm-waters without difficulty; but in the establishment of them no particular plan or system has been followed having reference to the needs of the whole district, or to the sanitary requirements. Sewers have been built as required by the inhabitants of particular localities, and chiefly in such direction as to meet the wishes of the parties particularly interested, and the contents are poured out at the nearest point on the water, without regard to its further course after it leaves the mouth of the sewer. The consequence is that much of the sewage matter settles in the immediate neighborhood of the sewer-outlet and lies spread out upon the flats exposed to the sun, to ferment and decay before it has been sufficiently scattered to render the foul gases harmless. No provision is made for flushing and washing out any accumulations in the bottom of the sewers, and the catch-basins serve as places of deposit where the process of putrefaction is going on continually and operating much like open cesspools at street corners.

The idea that there is in the earth and the water and air a cleansing and neutralizing property, so that the natural elements, on being brought into contact with filth, corruption, and infection, renew and restore a healthy condition, has been acted upon in the various modes of disposal of sewage matter; but the mode of nature's operation is not always fully appreciated in carrying out the work. It is only by means of a minute commingling of the particles of sewage matter with a sufficiently large volume of earth, water, or air that the beneficial results are obtained; and when the limited capacity of a particular body of earth or water to absorb and neutralize is reached, and it has become saturated with sewage deposit, the process of putrefaction goes on as before, and the whole mass is contaminated. This happens about privies and leaky cesspools; and in populous districts whose cesspools have been extensively used for a long time, the whole soil becomes contaminated, exhaling foul and dangerous gases, and poisoning all water that is filtered through it, so that no water can be found in the region that is free from sewer-taint, as was notably the case in London and Paris, and gradually becomes so in all populous places; hence the constantly-increasing demands for better water-supplies which, as our towns grow older, are being multiplied among us, and which in their turn, by the increased flow of sewage discharged, still further foster the contamination of the soil and waters into which the sewage is cast.

The plan proposed for the removal of the difficulties described—

* * * proposes two intercepting sewers, one upon the north side and one upon the south side of the city, following in the main the courses of the North river and the South channel. By means of these the artificial drainage of the main sewerage districts can be secured upon the same plan as was the natural drainage. The point of outlet or outlets is of first importance and first to be fixed. After examination and advising with the engineers, we are satisfied that a point on the channel below Beverly bridge, at or near the lobster rocks, offers the best facility, and that the two sewers can best be united in one outfall at that place. This plan will be more economical than two outfalls, and it secures an intercepting sewer for all the sewerage districts of the city proper, which would not be the case with the Collins Cove district if each intercepting sewer is carried to an independent outlet.

The course of the north sewer will be down along the line of the railroad embankment, substantially to a point at or near Burnside street, where it will cross the Eastern railroad, and thence across Bridge street and the Pierce and Wait field, out over the flats to the channel at or near the rocks, or following the line of shore around by the end of Beverly bridge to the same point. The south sewer to be laid from Mill street, or from the outlet of the Creek Street sewer, by the Eastern railroad station, along the line of the South channel and Derby street and across the head of Collins cove to join the north sewer at the outlet. These intercepting sewers may be made to collect substantially all the sewage of the city. The portions not drained by them will be Peabody and Ward streets, the region about the Naumkeag factory, and the eastern part of Harbor street. These, by means of a siphon, might be connected, but the cost would be too great to warrant the attempt until there shall be a much greater exigency than at present. The same might be done along the shore of South Salem toward the harbor, and a part of North Salem which slopes toward Beverly. The sewage of all the rest of the

inhabited portions of the city, except what, like the Neck and Winter island, is already out at sea, can readily be carried off by those two intercepting sewers. Beginning with South Salem and the mill-pond sewerage district, as the one apparently least accessible from the proposed outlet, we find that the natural drainage of the larger portion of South Salem, south of the engine-house, is toward the mill-pond, and much of it must necessarily go that way. Any material increase of the discharge of sewage matter into the mill-pond must result in such an aggravation of nuisance there that the demand for its removal will be imperative, and if delayed the difficulty will only be met at the cost of a greatly disproportionate increase of expenditure beyond what measures of prevention will now cost. A sewer laid along the canal, as it is called, and across the pond to Mill street, there to join the proposed intercepting sewer, will take all the sewage of South Salem that inclines toward the mill-pond, and also serve as an intercepting sewer for the sewer already built on Ropes street, thus accomplishing one branch of the plan for preserving the mill-pond. Such a sewer for the present need only be built from the foot of Gardner street, and whenever and as fast as the needs of the community demand, it may be extended until it reaches the sewer laid last year in a drain from the meadow beyond the car-works.

Another sewer along Margin street should be built, to take sewage which now flows from the region about Hawthorne street into the pond, and divert it to the proposed sewer at or near the outlet of the Mill Street sewer. In this mode we shall keep out of the mill-pond all the sewage that flows directly to it except the refuse from the glue-works upon the turnpike, which must be provided for in some other way.

Concerning the mill-pond, it is suggested that, in addition to the work above indicated, the dam be fixed at such an elevation as will prevent the present extensive inflow of the tides, maintaining the water at a considerable height; and allowing only so much movement at the top of the flood and ebb as shall give its waters the required refreshment.

The following are the recommendations concerning the improvement of the North river:

The whole drainage area of the stream must be treated as one sewerage district, including Peabody and Salem. The pollution of the stream begins in Tapley's brook. The whole of the waters of that brook are used by the bleachery and the glue-works, and our sewer must begin at that point, and be of sufficient capacity to take the ordinary flow of that brook, and, being enlarged as it progresses, to accommodate the increased flow from the tanneries and sewers lower down. The estimate made after careful inquiry and examination, based upon the actual measured flow of Tapley's brook, the number and size of the tanneries, and the settled drainage area, shows the daily flow of sewage-water required from all sources at the present time to be 19,000,000 gallons per day, equal to about 1,764 cubic feet per minute. The elevation allows of a grade of only 1 in 2,700 feet, or 23 inches to the mile. A sewer equal to 7 feet diameter, circular form, at this grade, would discharge 5,800 cubic feet per minute. This, the engineers agree, is sufficient allowance for future increase and for the accommodation of the amount of storm-waters which it is deemed important to receive into the sewer. From a point about 200 feet above the Peabody boundary the grade increases, and a 5-foot circular sewer will be sufficient. The outlet of the proposed sewer will be 1 foot below high-water line at the top and about 2 feet above low-water at the bottom; the amount of rainfall to be received from the street-washings to be limited to about one-twentieth of the amount usually provided for in sewers which have no overflows and take all the storm-waters; the sewers which now take all the storm-waters to be provided with proper overflows to carry off the storm-waters not admitted into the intercepting sewer. The first street-washings usually contain a large proportion of animal excreta and refuse, that renders sewage especially offensive, and is unfit to be discharged into the open stream.

The length of sewer in Salem will be 2½ miles; in Peabody, about 1 mile. The present level of the bottoms of the vats in the yards below Frye's mill-pond is about the level of the bed of the stream, and of course below the level of the sewer proposed. In order to secure drainage from these, it will be necessary to raise the soaking-vats to the level of the sewer or a little higher. As during a portion of time daily, just before and after high water, the mouth of the sewer will be full, and sewer-gas, if present, will be liable to be compressed and driven to an outlet, it will be essential that ample ventilation shall be provided at frequent intervals to allow it to pass off freely. These should be so frequently placed that the gases given off from the sewers may be widely disseminated, and nowhere allowed to escape in such quantities as to be sensibly noticed at a distance of many feet. A portion of the ventilation should be carried to the tops of tall chimneys and above the tops of houses. The discharge of these gases into the upper air is equivalent to the discharge of liquid sewage into the large volume of deep water; nothing is ever heard or smelt of them afterward. There will be three crossings under railroad-tracks, for which extra expenses will be incurred, as also for the sea-wall below North street, and for connecting sewers at Strong Water brook, and the public sewers that now discharge into the river (the allowance for connections at the tanneries is included in the cost of the sewer proper), for culverts for the overflows of connecting sewers and the basin above North street, and for sea-wall and rubble protection at the the outfall from the force of the water and storms. And something must be expended for structures to secure ample flushing with water from Proctor's brook, for land damages, for the abolition of Frye's mill-privilege, and for excavations below North street for laying the sewer in the river along the outside of the sea-wall of the railroad premises. This, or any sewer which shall do the work expected of this, must be the joint work of Peabody and Salem. Unless the people of the town of Peabody shall provide some other way of disposing of its sewage, they must apparently avail themselves of this route to deep water, and they are clearly under legal obligation to provide that their sewage in its transit creates no nuisance in the region through which it passes. We have not deemed it our duty to make investigation as to the course of the sewer in Peabody, nor the cost or size, further than to learn what must be the size of our own. It is not to be presumed that the people of Peabody will desire to carry their sewage to the sea by an independent sewer of their own, but they will prefer, on the score of economy, to join with Salem in the construction of a sewer for the accommodation of both, and to contribute, under some equitable arrangement, their due and proper proportion of the cost of the whole. With that view we have endeavored to separate the estimates of cost which belong properly to the intercepting sewer, from the costs of other works which we deem necessary for our own city, and in which the inhabitants of Peabody seem not to be pecuniarily interested.

The cost of that part of the work for North river which lies in Salem is estimated at about $330,000.

The remaining locality requiring especial action by way of remedy for the present and protection from the future nuisance is the basin at the foot of Saint Peter street. It is in the midst of a populous neighborhood, and especially a source of offense and danger. Three sewers discharge into it. Of course the first step toward relieving the trouble is to remove the cause if possible. If the proposed intercepting sewer is built, the sewers now in this basin will be extended to it; if no sewer is built, then they should be extended out to the culvert where are deep water and a good current a part of the time. We can not hope to purify any place while we continue to pour the polluting substance upon it.

In order to carry out these sewers without filling the basin, three causeways will be needed from the present outlets to the culvert, or rather two causeways and an extension of the railway embankment. These causeways must be wide and high enough to afford

protection to the sewers from water and ice. Some 2,200 feet of sewer will be required, at a cost approximately estimated at $15,000, one-half of which will be for filling. These fillings will separate the basin into three parts, making additional obstruction to the free flow of the water. If the intercepting sewer is built as proposed, it will interpose a dam at the outlet of the culvert, substantially filling the space between high- and low-water mark, so as to stop the flow of the tide, unless at large expense, for a water-way underneath and below the low-water level, while the cost of construction of the sewer will be much increased by the necessity of protection from the strong currents at half-tide at the culvert. The filling the basin will be almost a necessity if the sewer is built. It has been proposed to erect a dam and gates to hold back a portion of the tide and cover the flats from the sun's rays. If the sewers are extended to the culvert, this would probably answer the purpose for a time perhaps sufficiently long to warrant the expenditure; but the shoaling of the basin would doubtless be hastened, and the ultimate result must be filling the basin. If the sewage is not removed, the expedient of the dam and tide-gates could hardly be productive of any other result than the creation of another Frye's mill-pond in our midst, with gaseous exhalations of a more dangerous character, as the sewage is made up of human excreta in large proportion. The deposits of solid matter must be increased upon the bottom, while the action of a small body of still water will be of value only in delaying the process of decomposition. The process will still go on if the deposits of sewage are allowed to accumulate, and the last state must, in the near future, become worse than the first. The area of the basin is about 12 acres, to fill which to a depth of 4 feet will cost $22,000; deducting from this the sum of $7,500, the cost of fillings for the extensions of the sewers which must be made in order to insure the abatement of the nuisance by whatever plan it is accomplished, and there is left the sum of $14,500 to offset the creation of 12 acres of land near the heart of the city, lowland to be sure and not fit for inhabitants, but of considerable taxable value. To fill this and attempt to assess betterments would not be judicious, if practicable. The titles to the soil and bottom of the basin are in a very complicated state, and such a course would require the city to determine the doubtful titles at its own risk. The uncertainties of the proprietorship in the flats under the colony ordinance of 1647 have been further complicated by succeeding conveyances, till the difficulties of establishing a title to some parts must be nearly insurmountable, and when established to a nuisance, it can not be very valuable. If the proposition is to fill up the basin, the title can probably be obtained at a very low figure.

The best mode of proceeding will be to procure authority to take the flats and fill and sell the land, paying the value to such as can establish their claims. In our opinion, the place to begin the work of renovation on this side is at this basin, and by annihilating the basin and substituting wholesome and valuable land in its place.

The total cost of carrying out all of the recommendations, including $90,000 chargeable to Peabody, is estimated at $395,072.

These recommendations are apparently based on the advice of J. Herbert Shedd, esq., the engineer of the commission. They have been thus fully described here, not only as being necessary to a proper understanding of the sanitary condition of this city, but because many of the points considered must arise in connection with proposed improvements in other places lying on the coast or traversed by small streams made foul by the outflow of manufacturing establishments.

CEMETERIES.

There are connected with the city 4 public and 3 private cemeteries and burying-grounds, as follows:

Charter Street Ground.—Area, 1½ acre, situated in ward 1.

Howard Street Ground.—Area, 2½ acres, situated in ward 2.

Broad Street Ground.—Area, 2½ acres, situated in ward 3.

Orne Street Ground.—Area, 8 acres, situated in ward 6.

Friends' Society Ground.—Area, one-fourth acre, situated in ward 4.

Catholic Cemetery.—Area, 8 acres, situated in ward 6.

Harmony Grove Cemetery.—Area, 43 acres, situated in ward 6.

There is but one church-yard containing graves in Salem, that of Saint Peter's church (Episcopal); it is quite small, and interments are no longer permitted therein. No burial is allowed without a permit from the city clerk; there is no time limit. Every grave must be 4 feet in depth at least.

MARKETS.

Salem has two public markets: The market-house, covering 4,000 square feet, and containing twelve stalls; the fish-market, covering 2,500 square feet, with no division into stalls. The farmers' and hucksters' wagons standing outside may occupy 20,000 square feet, and more if necessary. The total rental of the general market is $125 42 per month; of the fish-market, $40 per month.

The markets are open every day during business hours, and also on Saturday evenings. The gross annual sale from the stalls or within the market is not known. But a small proportion of the retail supply of meats, poultry, fish, and vegetables are supplied by these markets, as compared with private stores and stands. The central market is leased by a few dealers, and the people generally are accommodated by butchers' wagons and local stores in all sections of the city. A large retail trade is done from farmers' and hucksters' wagons in the vicinity of the market on Saturday evenings, and a special location on the sides of the streets is assigned for them.

SANITARY AUTHORITY—BOARD OF HEALTH.

The title of the health organization is "board of health". It is an independent board of three members, neither of whom is a physician. The board was created about the middle of the year 1880, and its expenses can not be predicted. The extent to which the board may increase its expenses during an epidemic is according to the authority conferred by the public statutes of the commonwealth. The title, salary, and powers and duties of the

chief executive officer of the board are not yet determined. Five thousand dollars was recently appropriated for the use of the board of health and $4,000 for necessary buildings. No mode of transacting its business has been fixed upon. No assistant health officers or inspectors are employed, but the aid of the police is called if found necessary. At present inspections are made only as nuisances are reported, in which case the board investigates and corrects them. The board is appointed by joint convention of the board of aldermen and the common council. It has in charge the inspection and correction of defective house-drainage, privy-vaults, cesspools, and sources of drinking-water, while defective sewerage, street-cleaning, etc., are under the care of the street commissioner. As yet the board has exercised no authority over the conservation and removal of garbage. Heretofore garbage has been taken away by keepers of pigs in the outskirts of the city. The burial of the dead is under the control of the superintendent of burials. The question of the pollution of streams and harbor and the removal of excrement is still unsettled by the board. At present, excrement is removed at night by the poor-house teams, or, in winter, by neighboring farmers.

INFECTIOUS DISEASES.

Small-pox patients are isolated in the pest-house. Scarlet-fever patients are usually quarantined at home. The board takes cognizance of the breaking out of contagious diseases in public and private schools, excluding from school all children from any infected family. The pest-house is situated on "the Neck", a peninsula jutting out between Salem and Beverly harbors. Vaccination is compulsory, and, if the subjects are indigent, it is done at the public expense by the city physician. The board reports annually to the city government.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned by the city through its street commissioner, the work being performed by the city's own force. The cleaning is done both by hand and by machine, but chiefly by hand. The leading thoroughfares are cleaned every Saturday. It is done very efficiently, and its annual cost to the city is from $2,500 to $3,000; to private persons, nothing. The sweepings are dumped upon the flats. "The system works well enough, and has the advantage of filling up and utilizing neighboring flats."

Garbage and ashes.—There are no regulations as to the conservancy of garbage while awaiting removal. As the removal of ashes and garbage is done entirely by individuals, it is impossible to tell their final disposition or what the cost of such removal is. No nuisance or injury to health is known to result from the improper use or handling of garbage.

Dead animals.—On information or complaint the city sees that dead animals are properly buried or carried off away from the city, and utilized for their bones, fat, and skins—this at no cost to the city. But few animals are thus removed; but when so done the persons removing them are glad to get and remove them for their money value. The method works fairly.

Liquid household wastes.—All liquid wastes, including water closet wastes, are carried into sewers or deposited in cesspools. About one-half of the liquid household wastes are delivered into public sewers, the other half being run into cesspools on the premises. It is not known whether these cesspools are water-tight, nor to what extent they are provided with overflows. No household wastes are run into street-gutters. It is not known that any drinking-water has been contaminated by the overflowing or underground escape of the contents of cesspools and privy-vaults. Cesspools are cleaned out either by carts of the poor-farm or by farmers, their contents in either case being used for manure.

Human excreta.—It is estimated that one-third of the houses of Salem have water-closets, the other two-thirds depending on privy-vaults. About all the water-closets deliver into public sewers. Probably none of the privy-vaults are water-tight. The new board of health has not yet provided regulations concerning the construction and emptying of privy-vaults. It is thought that the dry-earth system is not used at all. The ultimate disposal of night-soil is for manure. The water-supply is so far away and is so situated as not to be affected by the danger of manuring land within its gathering-ground.

Manufacturing wastes.—There are no regulations concerning the disposal of liquid and solid manufacturing wastes.

POLICE.

The police force is appointed and governed by the mayor and board of aldermen. The title of the chief executive officer is "city marshal", and his salary is $1,500 yearly. The rest of the force, with pay per annum in each grade, is: 1 assistant-marshal, at $900; 1 captain, at $875; 1 sergeant, at $850; and 7 day police, 20 night police, and 1 keeper of the lock-up, at $800 each.

The uniform is blue, and is furnished by the men themselves. They are armed with revolvers and clubs. The patrolmen's hours of service are nine hours in summer and ten in winter, and all the streets in the city are patrolled by the force. The number of arrests for 1880 was 981. The number of station-house lodgers was 646; for 1879 it was 763. The force is required to co-operate with the fire department at all fires. Special policemen are appointed by the mayor and aldermen. The cost of the police force for 1880 was $27,187 05.

COMMERCE AND NAVIGATION.

[From the reports of the Bureau of Statistics for the fiscal years ending June 30.]

Customs district of Salem and Beverly, Massachusetts.	1879.	1880.
Total value of imports	$9,216	$27,832
Total value of exports:		
Domestic	$7,719	$7,080
Foreign	None.	None.
Number of immigrants	None.	None.

Customs district of Salem and Beverly, Massachusetts.	1879.		1880.	
	Number.	Tons.	Number.	Tons.
Vessels in foreign trade:				
Entered	34	3,432	96	8,905
Cleared	34	3,477	106	10,256
Vessels in coast trade and fisheries:				
Entered	25	3,070	41	7,107
Cleared	15	1,865	7	1,031
Vessels registered, enrolled, and licensed in district	74	6,779	68	6,650
Vessels built during the year	None.	None.	None.	None.

SEA-FISHERIES.

The following summary, from the report of G. Brown Goode, special agent, indicates the condition of the sea-fisheries in the customs district of Salem, for the year 1879:

Total number of persons employed	320	Fresh fish	pounds	5,437,800
Total amount of capital invested	$209,784	Fish, dried, smoked, etc	do	1,745,600
Total number of vessels engaged	36	Lobsters	do	422,250
Total number of boats engaged	120	Squid	barrels	325
Total number of nets in use	10	Fish-oil	gallons	6,475
Total number of traps in use	1,302	Sea-weed	tons	150

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Salem for 1880, being taken from tables prepared for the Tenth Census by Elmer Valentine, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	241	$3,978,850	2,632	1,300	240	$1,401,592	$7,264,447	$9,926,564
Blacksmithing	13	10,300	24	.....	.....	12,442	10,300	36,510
Boot and shoe findings	5	16,250	35	49	.....	21,960	70,000	107,300
Boots and shoes, including custom work and repairing	9	93,000	379	305	12	221,989	427,016	789,650
Bread and other bakery products	7	12,300	20	.....	.....	10,774	26,131	42,625
Carpentering	24	20,150	86	.....	.....	46,279	66,347	135,655
Coffins, burial cases, and undertakers' goods	3	6,000	8	.....	.....	4,880	2,200	9,320
Foundery and machine-shop products	10	47,500	56	.....	.....	27,230	50,379	101,943
Furniture	4	7,700	20	.....	.....	7,304	9,830	18,000
Leather, curried	36	703,050	546	1	.....	282,111	3,059,359	3,589,511
Leather, tanned	29	452,500	347	.....	.....	175,149	1,926,956	2,336,634
Looking-glass and picture frames	3	6,500	3	1	.....	1,900	4,500	10,300
Marble and stone work	5	19,000	28	.....	.....	11,208	9,600	29,453
Masonry, brick and stone	5	12,300	44	.....	.....	20,850	17,320	42,790
Painting and paperhanging	21	12,100	58	.....	.....	24,138	25,059	71,300
Plumbing and gasfitting	4	7,500	15	.....	.....	7,600	8,700	22,100

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
Printing and publishing	4	$29,000	20	8	1	$12,864	$16,740	$40,661
Saddlery and harness	8	11,500	16	.....	.....	7,194	11,025	25,002
Shipbuilding	5	9,500	15	.....	.....	7,140	4,685	13,640
Tinware, copperware, and sheet-iron ware	5	68,500	45	7	.....	24,254	15,700	51,954
Tobacco, cigars, and cigarettes	5	21,500	15	21	.....	10,404	15,500	31,500
All other industries (*a*)	36	2,412,700	843	917	227	463,922	1,487,100	2,420,026

a Embracing artificial limbs; bagging, flax, hemp, and jute; bookbinding and blank-book making; boxes, wooden packing; brass castings; brick and tile; carriages and wagons; cars, railroad, street, and repairs; clothing, men's; confectionery; cooperage; cordage and twine; cotton goods; dentistry, mechanical; drugs and chemicals; files; flouring and grist-mill products; lasts; liquors, malt; lumber, planed; musical instruments, organs, and materials; oil, lubricating; oil-cloth, floor; paints; patent medicines and compounds; sash, doors, and blinds; wheelwrighting; and window blinds and shades.

From the foregoing table it appears that the average capital of all establishments is $16,509 75; that the average wages of all hands employed is $335 23 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is $36,949 25.

SOMERVILLE,

MIDDLESEX COUNTY, MASSACHUSETTS.

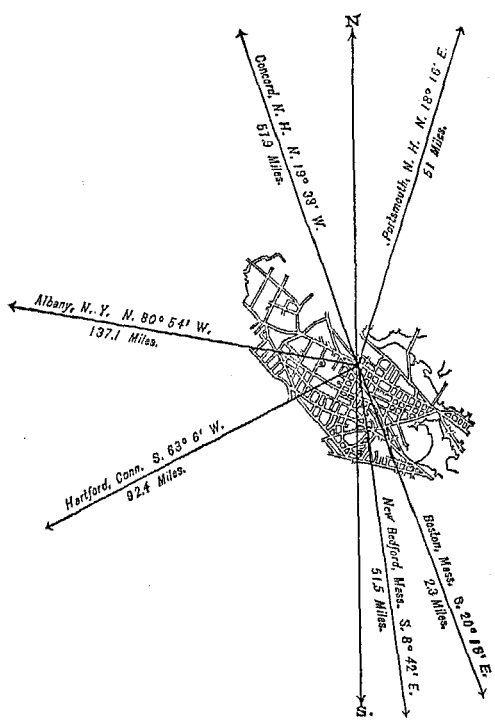
POPULATION

IN THE

AGGREGATE,

1850-1880.

	Inhab.
1790	.....
1800	.....
1810	.....
1820	.....
1830	.....
1840	.....
1850	3,540
1860	8,025
1870	14,685
1880	24,933



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	11,873
Female	13,060
Native	19,252
Foreign-born	5,681
White	24,852
Colored	*81

* Including 4 Chinese.

Latitude: 42° 32′ North; Longitude: 71° 5′ (west from Greenwich); **Altitude: 10 to 145 feet.**

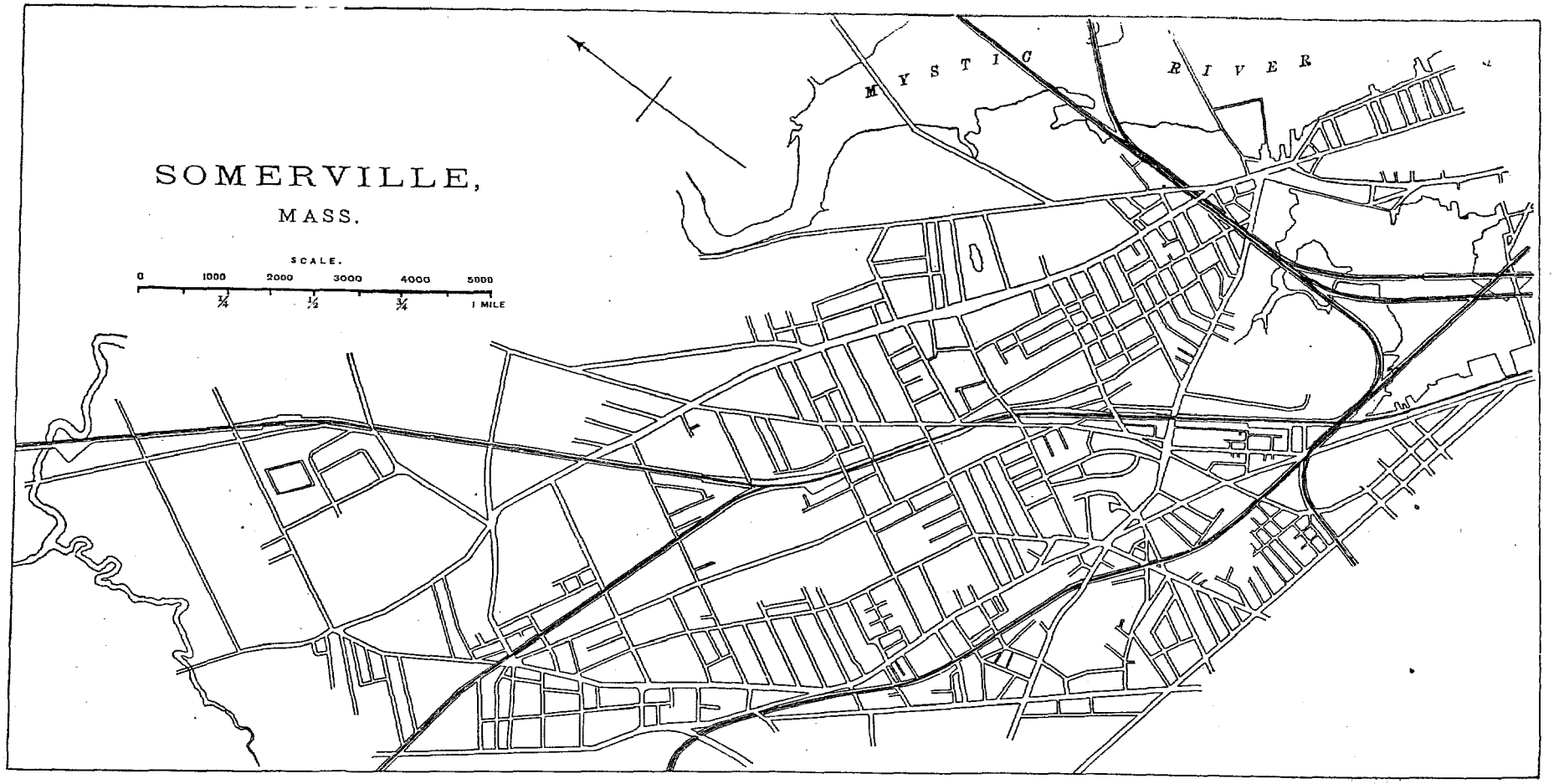
FINANCIAL CONDITION:

Total Valuation: $18,590,100; per capita: $760 00. Net Indebtedness: $1,596,974; per capita: $64 05. Tax per $100: $1 80.

HISTORICAL SKETCH.

In 1637 Charlestown purchased from the Pawtucket Indians the land on which Somerville now stands, paying 30 shillings down, and two years later making a further payment of 21 coats, 19 fathoms of wampum, and 3 bushels of corn. This land was generally taken up by settlers, and for two hundred years it remained a part of Charlestown.

In 1828 an attempt was made to separate this territory from the mother town, but without success. The completion of the Boston and Lowell railroad through this part of Charlestown in 1835 gave a fresh impetus to the movement, and a petition from the inhabitants to be incorporated as a town under the name of Warren was presented to the legislature. After numerous delays an act was finally passed, approved by the governor March 3, 1842, setting off this district from Charlestown and incorporating it as a town under the name of Somerville.


SOMERVILLE,
MASS.
SCALE.
0
1000
2000
3000
4000
5000
¼
½
¾
1 MILE
MYSTIC
RIVER

Somerville began her career as a sparsely-settled farming district, with less than 200 dwellings scattered over her territory, and a population that numbered but 1,013, the school census showing 293. The town valuation was under $1,000,000, and scarcely any one of the people paid a tax of $100.

The position of the new town near Boston, and the comparative cheapness of land, either for living or for business purposes, quickly attracted persons from that city, and Somerville began at once to increase. Municipal improvements were many, school-houses and dwellings were erected, a fire-company was organized and an engine was purchased, a copper-tube manufactory, glass factory, dyeing and bleaching establishment went into operation, and brick-making was conducted on quite a large scale. The facilities for communication with Boston were further increased by the opening of two more railroads through the town and the building of two street-car lines, and in 1860 the valuation of Somerville had risen to over $5,000,000.

In 1867 the first town sewer was laid. In 1869 water was introduced from the Charlestown mains, and in 1871 the state legislature granted to Somerville a city charter, the citizens accepting the same and inaugurating the city government January 1, 1872.

From 1869 to 1874 was a period of active building operations, and in 1873, '74, '75, large expenditures were made by the city in laying out new streets and public parks, building sewers, and filling in low lands. In the last two years about 30 acres of flats and marsh, the larger portion being the bed of Miller's river, were filled in by the riparian owners.

SOMERVILLE IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Somerville:

LOCATION.

Somerville lies in latitude 42° 32′ north, longitude 71° 5′ west from Greenwich, with Medford on the north, Boston on the east, Cambridge on the south, and a part of Cambridge and Arlington on the west. The lowest point is 10 feet, and the highest point 145 feet, above mean low water. The Mystic river, which touches the northwestern part of the city, has here a depth of some 15 feet. There is but one wharf in the city, and at present it is not used.

RAILROAD COMMUNICATIONS.

Somerville is touched by the following railroads:
The Fitchburg railroad.
The Boston and Lowell railroad.
The Boston and Maine railroad.
The Eastern railroad.
The Grand Junction branch of the Boston and Albany railroad.

TRIBUTARY COUNTRY.

The city is practically a suburb of Boston, and is occupied mostly by persons doing business in the latter city. There are a few manufacturing establishments, but Somerville can not be said to have much trade with the surrounding country.

TOPOGRAPHY.

The city occupies a territory 4 miles long, varying in width from 500 feet to 2 miles, and has an area of 2,700 acres. About seven-eighths of the soil on which the city stands is a clayey gravel and the remainder is sand. In some sections there is underlying rock to a limited extent. The variations in level are quite marked, and a large portion of the inhabitants reside on the high lands. The elevations of the surrounding country are about the same as those of the city, and the country within a radius of 5 miles is open.

CLIMATE.

Highest recorded summer temperature, 94.8°; average highest summer temperature in past 10 years, 92.7°. Lowest recorded winter temperature, —13.6°; average lowest winter temperature in past 10 years, —5.6°.

STREETS.

Total length, 60 miles, and of this 40 miles are public and 20 private. The public streets are nearly all macadamized. In the principal streets the sidewalks are of brick, elsewhere of gravel. The gutters are laid with cobble-stones. Trees are planted along the sides of the streets by the abutters and at their own expense. A steam

stone-crusher is used with good effect. All labor on the streets is by the day, and the annual expenditure for construction and repairs is $33,437. There are no street-railroads owned in the city, but two lines—one from Boston and the other from Cambridge—have branches in Somerville that are found to be ample for the needs of the inhabitants.

WATER-WORKS.

The city draws its water-supply from the Mystic department of the Boston water-works, and owns all the street-mains within its limits. Boston collects all the water-rates and allows Somerville a certain percentage. In the past year this allowance amounted to $12,999 79.

GAS.

The south part of the city is supplied with gas by the Cambridge Gas Company, while the Charlestown Gas Company, of Boston, supplies the remainder of the city.

PUBLIC BUILDINGS.

The city owns and occupies for municipal purposes, wholly or in part, 1 city hall, 6 engine- and hose-houses, 17 school-houses, and 1 police-station. The city hall cost $10,000, and is owned and occupied entirely by the city.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are two parks in the city:

Broadway Park, the largest, is situated on Broadway, between Mystic, Chauncey, and Winthrop avenues, in the northerly part of the city, and has an area of 16 acres. It was originally marsh-land, but has been raised some 4 feet by filling. The grounds are laid out in walks, trees have been set, and the park has been generally improved under the designs of H. A. May, esq. The total cost of the park to date, including the land, is $212,000, and the annual cost of maintenance is $1,200.

Central Hill Park, with an area of 11 acres, is situated on Central hill, 100 feet above low-water mark, and as yet has not been improved. The cost to the city for the land was $60,000.

PLACES OF AMUSEMENT.

Somerville has no theaters. Beacon hall, with a seating capacity of 1,000, and Police Station hall, with a capacity of 600, are used for traveling exhibitions, concerts, lectures, etc. They pay no license to the city. In addition, there are Clarendon hall, Foster School hall, High School hall, Hawkins' hall, and many other private halls used by societies, etc.

DRAINAGE.

The construction of sewers was begun in 1867. Until this time very few water-courses had been covered. There then existed in all about 2 miles of private sewers laid in the streets. Of these, 2,078 feet were purchased by the town in 1869.

No regular plan has been adopted for the sewerage, each sewer being built as ordered and in accordance with the requirements of each case—presumably with such relation to past and future work as the judgment of the engineer suggests.

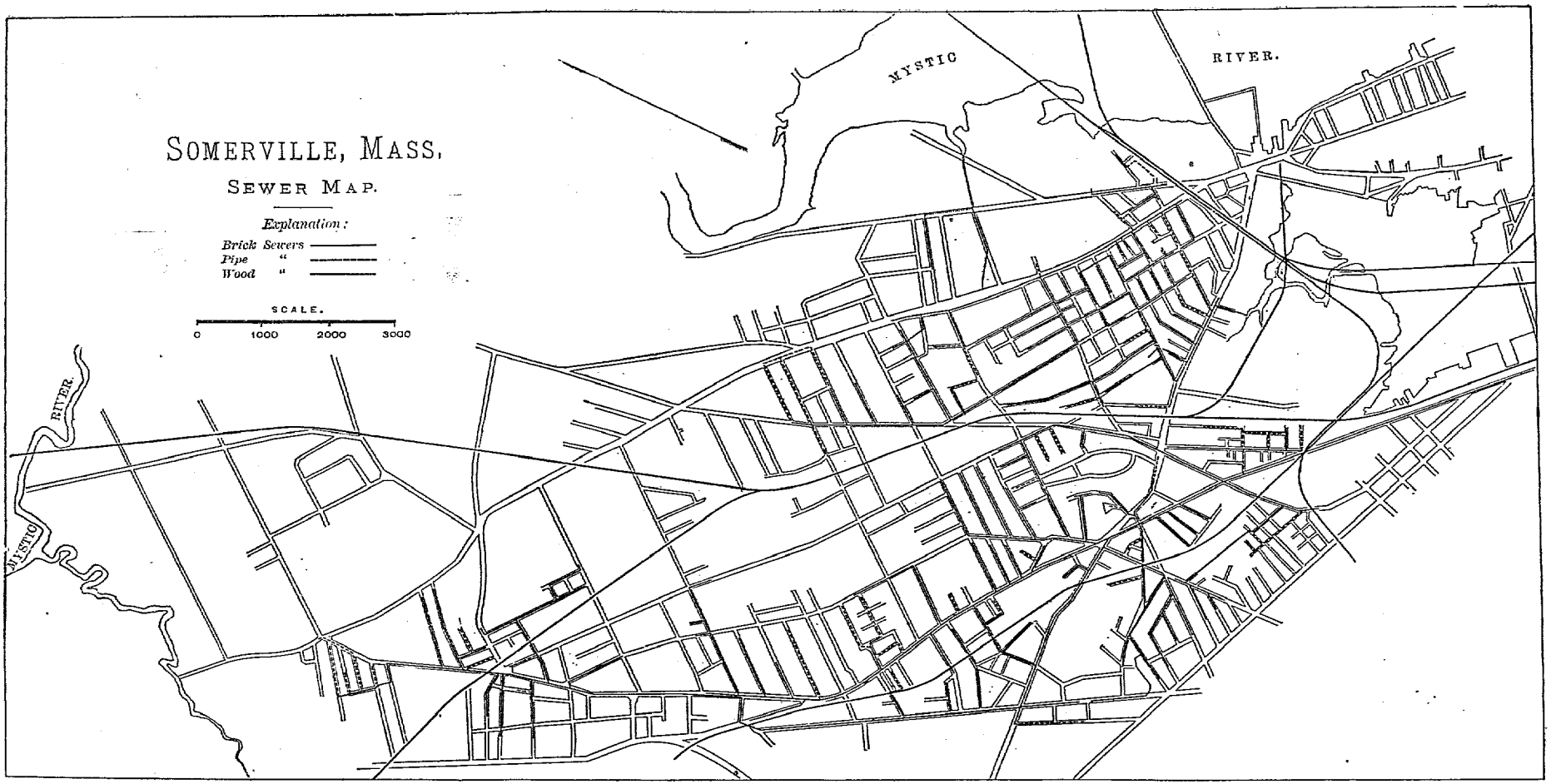
The total amount of work done to and including the year 1880 was 158,549.8 feet.

Hollow invert blocks for subsoil drainage have been used to some extent. They have been found to be of little use except during the construction of the sewer.

The total cost is not given, but the following table gives the prices of work done in 1880:

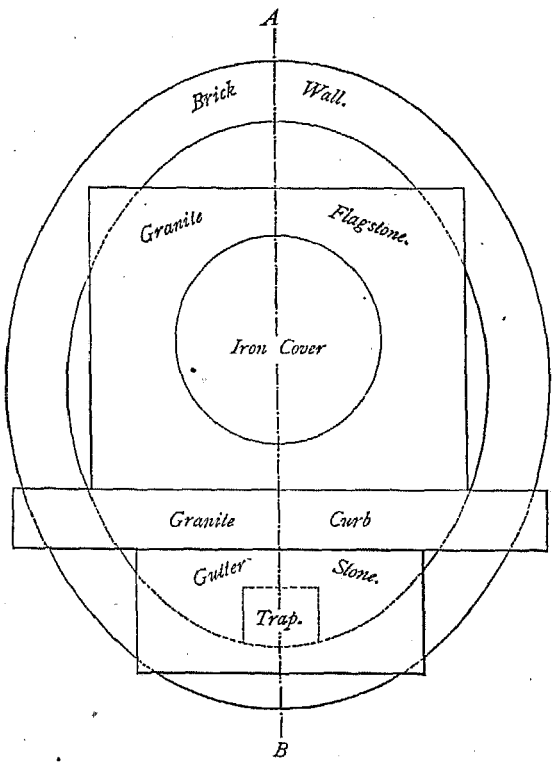
Materials.	Size.	Length.	Average depth of cut.	Average cost per foot.	Number of catch-basins.	Number of manholes.
	Inches.	*Feet.*	*Feet.*			
Brick....	20 by 13½	138.0	8.60	$1 09	9	.....
Brick....	24 by 17	3,117.5	7.72	1 72	241	15
Brick....	22½ by 15	250.0	8.40	1 52	26	1
Brick....	36 by 24	2,226.0	10.10	2 88	179	7
Pipe.....	12	3,459.5	8.46	1 22	269	21

The mouth of the large main sewer, which enters the Charles river under Cragie's bridge in Cambridge, discharges its dry-weather flow through iron pipes laid below low-water mark, a flap-gate being provided through which storm-water escapes. The ultimate discharge is into Boston harbor. Three sewers discharge above the surface of the water, and one small sewer into a creek below low water.

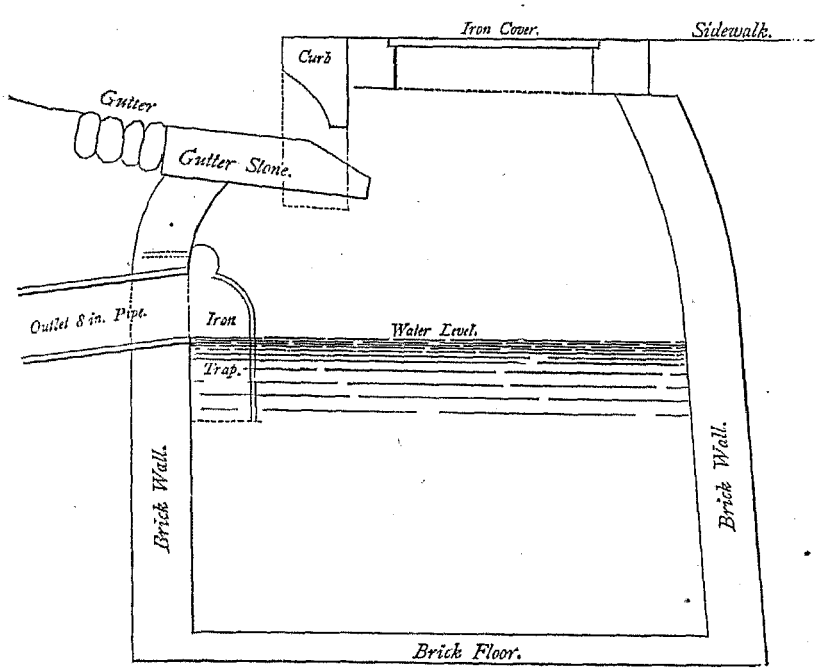

SOMERVILLE, MASS.
SEWER MAP.
Explanation:
Brick Sewers
Pipe "
Wood "
SCALE.
0 1000 2000 3000
MYSTIC
RIVER.
MYSTIC RIVER.

SOMERVILLE, MASSACHUSETTS.

Catch Basin.



Section on Line A B



Most of the sewers are said to be self-cleansing. The cost of flushing in 1880 was $93 75, and the cost of cleansing other than flushing was $186 27.

About two-thirds of the cost of small sewers is assessed on abutters according to the area of land within 100 feet of the street; the assessment on large sewers is in similar proportion. Assessments have averaged during the past year about 65 cents per front foot, or $1 30 per foot of sewer. Sewers and manholes are built by contract, and catch-basins by day labor.

Of the 30 miles constituting the total length of sewers, about 4 miles are of pipe and the remainder of brick. G. A. Kimball, esq., the city engineer, says, in reply to the schedule:

I am convinced that pipe sewers require much less care, are less liable to retain deposits, and are the most economical. During the last 5 years we have laid pipes on all streets where a 15-inch sewer would be of sufficient size.

The following extracts are made from the annual reports of the same officer from 1877 to 1880:

The Winthrop Avenue sewer discharges on the northerly side of Mystic avenue into an open ditch, thence through a wooden culvert under Middlesex avenue to Mystic river; the grade of this sewer is lower than the culvert, thereby preventing the sewer from emptying, and causing an accumulation of solid matter in the sewer to the depth of 18 inches or more. I would respectfully recommend that the culvert under Middlesex avenue be rebuilt at such grade as will give the sewer proper means of discharging. The outlet of Mystic Avenue sewer has been repaired. None of the above-mentioned sewers have proper outlets, all being on private property and discharging into open ditches, where the volume of water is small and the current slight, causing an accumulation of sewage along the banks which will soon become a nuisance.(*a*)

The owners of houses on Medford street, between Jackson street and Somerville avenue, have complained several times of their cellars being flooded, caused by the defective sewer. The bottom of this sewer at the outlet is about 1 foot higher than the bottom 200 feet distant; therefore the solid matter is retained in the sewer to the depth of a foot or more, and its capacity is diminished nearly one-half; the sewer should be rebuilt the present season. The sewer on Cedar street, near Hall street, is in the same condition as in 1877.(*b*)

The old wooden outlet of the Waverly Street sewer was found to be badly decayed and a cause of complaint to the neighborhood. In November the old sewer was removed, and replaced by a substantial wooden sewer constructed of spruce timber. A portion of the sewer on Medford street, between Somerville avenue and Jackson street, was rebuilt and the grade properly adjusted. The old sewer was found to be in bad condition, being about one-half full of deposit and badly out of shape. As the material supporting the sewer at the spring-line of the arch was found to be muck, the reconstructed portion was built with a double ring of brick.(*c*)

At the sewer outlet under Cragie's bridge, in East Cambridge, the sewage has collected on the flats and under the wharves, and is a cause of complaint. In June last the filling of the mill-pond in Charlestown closed the channel through which the Waverly Street sewer discharged; the sewage was discharged for a time on the marsh and flats and caused a nuisance. The boards of health of Boston and Somerville built a culvert under the Mystic branch of the Boston and Lowell railroad, and the sewage is now conducted through this culvert and an old channel to Prison point. This is only a temporary outlet, as the railroad companies are now filling the channel and flats near Prison point, and it is probable that this channel will soon be closed. The owners of vacant lands at the outlet of the Winthrop Avenue sewer desire to improve them, and have petitioned the city council to cease discharging sewage thereon. The sewage from the Canal Street and Tenny Court sewer, built in 1879, is temporarily discharging into a small creek. It is probable that it will soon become a nuisance to the residents in the neighborhood, and provision should be made for extending the sewer into deep water.(*d*)

CEMETERIES.

There is but one cemetery within the city limits. It has an area of 30,000 square feet, is quite old, and interments have not been made in it for many years. As there are no records kept of this cemetery, previous interments in it could not be given. The cemeteries of Mount Auburn, Forest Hills, and Woodlawn (for particulars of which see *Boston*) are used by the residents of Somerville for the burial of their dead.

MARKETS.

There are no public or corporation markets in the city.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Somerville is the board of health, an independent organization, composed of 1 physician, 1 civil engineer, and 1 business man. The first is always the city physician, and the other two are appointed annually by the mayor, subject to the approval of the board of aldermen, their terms of office being so arranged as to expire on alternate years. The annual expenses of the board, in absence of any declared epidemic, are $3,000, for salaries of inspector and clerk, removal of offal and house-dirt, stationery, printing, etc. In case of an epidemic the expenses can be increased to an unlimited amount. When there is no epidemic the authority of the board extends to all matters pertaining to the health of the city; *i. e.*, it abates nuisances and regulates the construction and cleaning of vaults and cesspools, house-drainage, and house connections with sewers. During an epidemic the board can take such action as is deemed best to check and control the disease. The chief executive officer of the board is an inspector, who receives a salary of $500 a year. He makes inspections, serves notices, and sees that all health regulations are complied with. He is not a physician, and has no police powers. The board meets once a week, or at other times when called by the chairman.

Inspections are made in all dwellings where contagious diseases exist, and in other places and dwellings that may be reported. When a nuisance is reported it is examined by the inspector, and if one is found to exist it is

a Report of 1877. *b* Report of 1878. *c* Report of 1879. *d* Report of 1880.

ordered abated. During the past year 730 nuisances in various parts of the city were abated. The board acts in the same way in the case of defective house-drainage, privy-vaults, and cesspools, and has called the attention of the state board of health to the contamination of the water-supply. The board has no control over street-cleaning, but it often calls the attention of the board of aldermen to defective sewerage.

INFECTIOUS DISEASES.

Small-pox patients are quarantined at home, and each house in which a case exists is put under charge of an officer detailed by the board. Scarlet-fever patients are isolated at home, and cards notifying the public of the fact are placed on the house. Scholars belonging to the public schools and living in a house where a case of contagious disease exists, are not allowed to attend school until all danger is past. Vaccination is compulsory, and is done at the public expense. All cases of contagious disease must be at once reported to the board by the attending physicians.

The city clerk conducts the registration of all diseases, births, and deaths according to state laws, but all death certificates given by attending physicians must be approved by the board.

REPORTS.

The board reports annually to the city council, and its report is published with the regular city documents.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its own regular force. The cleaning is done wholly by hand, no sweeping-machines being used. There being no paved streets, the cleaning is done at irregular times, and, on the principal streets, not so often as it should be. No separate account is kept of the work, and the sweepings are used for filling in low lands.

Removal of garbage and ashes.—All garbage is removed by the board of health, under contract, at an annual expense of $500. It is collected three times a week during the months of May, June, July, August, and September, twice a week during April, October, and November, and once a week during the other months. It must be kept in tight-covered vessels, free from ashes or house-dirt, and be set out on the sidewalks on the days designated for removal; it is taken to farms in the country. All ashes and house-dirt are collected once a month by the city with its regular force; it must be kept in boxes and barrels pending removal, and is disposed of the same as street-sweepings. The cost of this service to the city (1880) is $961 23.

Dead animals.—The carcass of any animal dying within the city limits is removed by parties authorized for the purpose and taken to a rendering-establishment. There is no expense either to the city or to householders for this service.

Liquid household wastes.—Nearly all the liquid household wastes are run into the public sewers, a small portion only going into cesspools and none into the street-gutters. The cesspools are generally porous, are not provided with overflows, in some cases receive the wastes from water-closets, and are cleaned out in the same manner as privy-vaults.

Human excreta.—About 75 per cent. of the houses in the city are provided with water-closets, nearly all of which deliver into the sewers, and the remainder depend on privy-vaults. The vaults are required to be constructed water-tight (very few are so), not nearer than 2 feet to any party-line, and the contents must not rise higher than within 12 inches of the top nor become offensive. The vaults are cleaned under permits from the board of health, by persons licensed for the purpose, and the night-soil is taken to Arlington, 4 miles away, and used to manure land not within the gathering-ground of the public water-supply.

Manufacturing wastes.—The refuse from the pickle factories is taken to the low lands and buried. Most of the liquid wastes from the manufactories pass into the sewers. Solid matters from the slaughter-houses are taken to farms and turned into a dry fertilizer.

POLICE.

The police force of Somerville is appointed by the mayor and aldermen and governed by the same authority. The chief of police is the executive officer. He enforces the laws of the state and ordinances of the city, and has control of the conduct and discipline of the force; his salary is $1,600 a year. The rest of the force consists of 1 captain, at $1,100 a year; 2 sergeants, at $950 a year each; and 20 patrolmen, at $2 50 a day each. The uniform consists of dark-blue suits with brass buttons, and a hat or cap, with overcoats in winter. The men provide their own uniforms at an average cost of $60 each a year. The city equips each patrolman with a club and a pair of handcuffs, the men furnishing their own revolvers. There are two reliefs, with eight hours on patrol and two hours at the station-house, and the length of streets patrolled by the force is 40 miles. A mounted policeman visits the outskirts of the city once a day.

During the past year 409 arrests were made by the force, the causes being—

Assault	65	Larceny	28
Disturbance of the peace	39	Vagrancy	23
Drunkenness	110	Violation of the Lord's day	16
Illegal sale of liquor	11	Not stated	117

Most of the above were disposed of by fines, some being imprisoned. The amount of property lost and stolen during the year and reported to the police was $2,000, and of this $1,400 was recovered and returned to the owners. The number of station-house lodgers for 1880 was 902, as against 2,239 in 1879. Meals to the value of $50 were furnished to lodgers by the poor department. The police are required to co-operate with the fire, health, and building departments in rendering all assistance necessary for the safety, health, and peace of the city. Special policemen are appointed by the mayor and aldermen when extra service is required, and they have the same powers and are subject to the same regulations as the regular force. The yearly cost of the police force (1880) is $23,600.

FIRE DEPARTMENT.

The force of the fire department consists of 1 chief and 4 assistant engineers and 71 men, 9 of whom are permanent and the remainder on call. The apparatus in use consists of 1 steam fire-engine, 5 hose-carriages, and 2 hook-and-ladder trucks, all drawn by horses. Water for fire purposes is taken from 300 hydrants. The annual appropriation for the department is $20,000.

PUBLIC SCHOOLS.

The annual report of the superintendent of public schools for the year ending December 31, 1880, shows the number of school-houses in the city to be 18 and the whole number of schools 82, the latter being divided into 1 high, 46 grammar, and 35 primary. The number of teachers is 92—8 males and 84 females—and the net expenditure for the year was $79,624 82. The whole number of pupils in all the schools and the average attendance in the past year is as follows:

Schools.	Whole number of pupils.	Average attendance.	Per cent. of attendance.
All schools	4,278	4,005	93.6
High	224	216	96.1
Grammar	2,076	1,967	94.7
Primary	1,978	1,822	94.1

The whole number of cases of tardiness was 2,776, and the number of dismissals 2,774.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Somerville for 1880, being taken from tables prepared for the Tenth Census by John E. Ashley, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	100	$1,682,795	1,191	84	21	$564,508	$4,608,192	$5,852,535
Blacksmithing (see also Wheelwrighting)	7	8,350	11	.....	.....	4,700	4,250	16,300
Boots and shoes, including custom work and repairing	9	1,305	5	.....	.....	2,000	4,245	11,300
Bread and other bakery products	4	15,000	20	4	2	14,600	42,000	66,000
Carpentering	12	24,700	44	.....	.....	24,250	42,387	83,500
Flouring- and grist-mill products	3	20,200	7	1	.....	2,600	98,390	111,400
Masonry, brick and stone	4	5,800	14	.....	.....	6,800	13,200	27,500
Painting and paperhanging	12	6,300	25	.....	.....	10,525	8,500	28,600
Plumbing and gasfitting	3	6,050	6	.....	.....	3,800	15,100	22,400
Saddlery and harness	3	500	1	.....	.....	225	2,000	4,300
Slaughtering and meat-packing, not including retail butchering	3	760,840	263	.....	.....	122,889	3,368,396	3,702,601
Tinware, copperware, and sheet-iron ware	4	8,050	6	.....	.....	3,800	6,000	20,719
Wheelwrighting (see also Blacksmithing)	4	3,950	5	.....	.....	3,150	3,800	21,700
All other industries (a)	32	812,750	784	79	19	365,169	999,924	1,736,215

a Embracing boot and shoe cut stock; brass and copper, rolled; brass castings; carriages and wagons; cordage and twine; cooperage; drugs and chemicals; dyeing and finishing textiles; fertilizers; foundery and machine-shop products; fruits and vegetables, canned and preserved; glass; hats and caps, not including wool hats; iron nails and spikes, cut and wrought; leather, curried; mattresses and spring beds; mats and matting; models and patterns; pickles, preserves, and sauces; printing and publishing; sash, doors, and blinds; soap and candles; stone- and earthen-ware; tobacco, cigars, and cigarettes; tools; upholstering; and vinegar.

From the foregoing table it appears that the average capital of all establishments is $16,827 95; that the average wages of all hands employed is $435 58 per annum; that the average outlay in materials, in wages, and in interest (at 6 per cent.) on capital employed is $52,736 68.

SPRINGFIELD,

HAMPDEN COUNTY, MASSACHUSETTS.

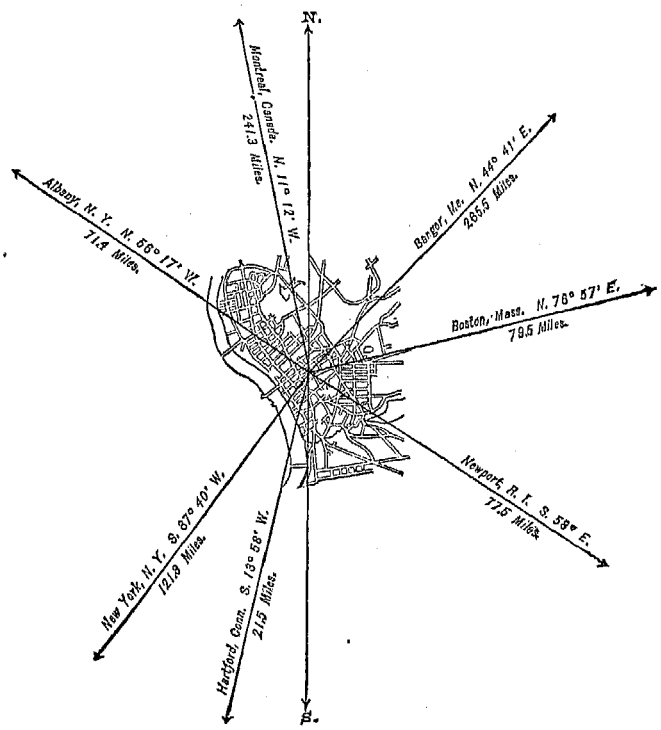
POPULATION

IN THE

AGGREGATE,

1800-1880.

	Inhab.
1790	
1800	2,312
1810	2,767
1820	3,914
1830	6,784
1840	10,985
1850	11,766
1860	15,199
1870	26,703
1880	33,340



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	15,767
Female	17,573
Native	25,807
Foreign-born	7,533
White	32,561
Colored	*779

*Including 1 Chinese, 1 Japanese, and 2 Indians.

Latitude: 42° 6′ North; Longitude: 72° 35′ (west from Greenwich); **Altitude: 38 to 250 feet.**

FINANCIAL CONDITION:

Total Valuation: $29,441,324; per capita: $883 00. Net Indebtedness: $1,928,000; per capita: $57 83. Tax per $100: $1 20.

HISTORICAL SKETCH.

No complete history of Springfield has ever been written, and the sketch which follows contains only the outlines of the history of the most important city of western Massachusetts.

The Connecticut river was first known to the people of Massachusetts in 1631, and two years later John Oldham, Samuel Hall, and two others, late in the autumn pushed their way through the wilderness to its banks, and were the first white men to gaze upon its lovely valley. They brought back glowing accounts of the beauty and fertility of the country they had seen, and in 1634 the people of several towns about Boston determined to make their homes in this new land. In 1635 the general court of Massachusetts gave permission to the people of Newe Towne (Cambridge), Dorchester, and Roxbury to go and settle in the Connecticut valley. Almost immediately John

Cable and John Woodcock were sent out from Roxbury to build a house upon a location chosen the year before by William Pynchon, Henry Smith, and John Burr. Thither, in 1636, came a party of settlers, who loaded their heavy furniture upon the "Blessing of the Bay", and sent it by sea and river to their new home, while they, with their wives and children and their flocks, set out on foot. They settled on both banks of the Connecticut, on a plantation which they called "Agaam," or Agawam". They purchased the land from the Indians for 18 coats, hatchets, hoes, and knives, and obtained a deed for it, which is still in existence. During the first few years of their settlement they were in doubt whether their land lay in Massachusetts or in Connecticut, and, as they were nearer the latter colony, they sent a delegate, in 1636, 1637, and 1638, to the assembly at Hartford. In February, 1638, they became convinced that they were in Massachusetts, and threw off their allegiance to Connecticut. The name of the town was changed, in 1640, to "Springfield", in honor of William Pynchon, who came from a town of that name in England; but no record remains from which we can learn the date of its incorporation, and it is doubtful if it was ever formally incorporated.

The life of the settlers was peaceable and fairly prosperous, although the town became engaged in a controversy with Connecticut by refusing to pay the tolls levied upon all vessels passing fort Saybrook. Massachusetts upheld Springfield, and the claim was for many years a source of bitterness between the two colonies. In 1645 the quiet of the town was disturbed by an outbreak of the witchcraft delusion. The children of the minister, Mr. Maxon, were troubled with fits, which it was claimed were the result of the machinations of a certain insane woman named Goody Parsons. The alleged witch was taken to Boston for trial, but was acquitted.

William Pynchon was the leading man in Springfield; he had founded the parent settlement, Roxbury; had been one of the original grantees of the charter of Massachusetts Bay, in 1628, and was a man of wealth and wisdom. But in 1650 he was unwise enough to publish a book enunciating doctrines at variance with the accepted belief of the Puritans. His book was burned at the stake, a learned doctor was appointed to refute his arguments, and his friends were exhorted "to wrestle" with him and obtain a recantation of his heresy. Disgusted with such treatment from those among whom he had always shown a noble and Christian character, he withdrew in 1652 to England, accompanied by the minister, who shared his opinions. His son remained with the settlement and, in 1660, built Pynchon house, the first brick structure in the Connecticut valley. This house was demolished in 1831, but its form is preserved on the seal of the city of Springfield.

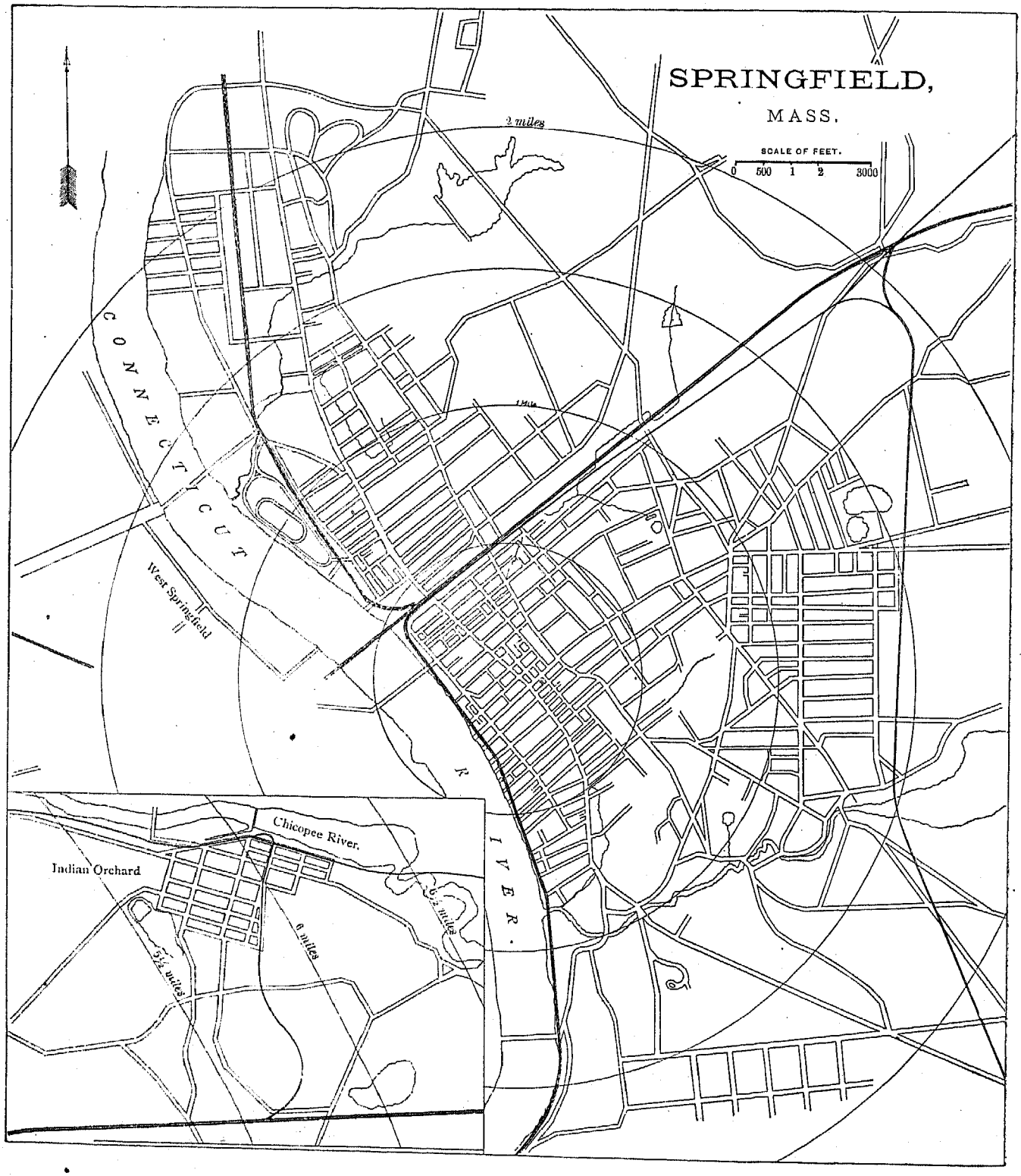
During King Philip's war the town was burned, in 1675, by the Indians. From this time to the Revolution no important event marks the history of the growing town, although its territory, which once included part of Westfield and Southwick, and the whole of West Springfield, Springfield, Chicopee, Wilbraham, Ludlow, Longmeadow, Enfield, and Somers, was diminished by the granting of Enfield and Somers to Connecticut, in 1713, and the incorporation of Longmeadow, the same year, and Ludlow and West Springfield, in 1774, as separate towns.

During the Revolution the industry which, perhaps, more than all others, has made Springfield famous and prosperous was begun. Early in the war the town was a recruiting-station; then it became a depot for military stores, and finally a place for repairing arms. Although the armory was not established by Congress until 1794, we find records in April, 1778, which show that during three weeks of that month 40 men were employed in Springfield making 34,361 cartridges. This work was done in shops on Main street; but not long after, the works were removed to Springfield hill, where the armory and arsenal stand to-day. About 350 men are now employed here, but during the civil war the armory gave employment to 3,000 men, and turned out 1,000 rifles a day. The principal workshops are on the hill, but the heavy work is done in shops situated on Mill river, about a mile distant. The possession of the arsenal was one of the objects of the rebels in 1786, at the time of "Shay's rebellion", and in the attempt to seize it were lost nearly all the lives sacrificed during that period of riot and rebellion.

If opposition to the war of 1812 was treason, then Springfield was treasonable, for her people steadily opposed the course of the general government, and one of her citizens was a member of the Hartford convention. In 1780 what is now known as Wilbraham became a separate town, and the first newspaper of western Massachusetts, the *Massachusetts Gazette*, was published in Springfield in 1782.

From the beginning of the present century the town grew steadily, and no important event occurred until 1839, when the railroad now known as the "Boston and Albany" was finished from Worcester to Springfield. In 1842 it was completed through to Albany. With the completion of this road Springfield's importance increased very rapidly. Large manufactories of ironware, machinery, locomotives, glass, chemicals, etc., sprang up, and in 1848 the population was estimated at 19,189. In 1844 the inhabitants of the district known as Chicopee, Cabotville, and Willimansett petitioned the legislature to be incorporated as a town. This was refused and the project was abandoned; but when, in 1848, an attempt was made to procure a city charter for Springfield the project for separation revived, and the district was incorporated as the town of Chicopee, although a city charter for Springfield was refused. By this separation Springfield lost 7,861 inhabitants and a very important part of her wealth.

In 1852 the legislature incorporated Springfield as a city, and the charter was accepted by the people April 21 of the same year. Since becoming a city the growth in wealth and population has been rapid, and in 1874 the valuation was given as $38,336,778. The crisis of 1873, and the depression following it, were not without effect on the city, for although the population had increased, the valuation of the city in 1880 was but $29,441,324.


SPRINGFIELD,
MASS.
SCALE OF FEET.
0 500 1 2 3000
2 miles
CONNECTICUT
West Springfield
RIVER.
Chicopee River.
Indian Orchard
8 miles
5½ miles
5½ miles

SPRINGFIELD IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Springfield:

LOCATION.

The city is situated in latitude 42° 6′ north, longitude 72° 35′ west from Greenwich, on the east bank of the Connecticut river. Its highest point rises about 250 feet, while its lowest is 38 feet above the sea-level. The river at this point is navigable only for barges and small steamers.

RAILROAD COMMUNICATIONS.

Springfield is connected with Boston and Albany by the Boston and Albany railroad; with Bellows Falls, Vermont, and from there to Montreal, by the Connecticut River railroad; with New York by the Longmeadow branch of the New York and New England railroad; with Hartford and New Haven by the New York and New Haven railroad; and with Athol, Massachusetts, by the Athol branch of the Boston and Albany railroad. The Boston and Albany, Connecticut River, and New York and New Haven railroads make use of a single railroad station.

TRIBUTARY COUNTRY.

The city is within a short distance of such towns as Holyoke, Chicopee, and Chicopee Falls, which are large and important manufacturing places more or less tributary to Springfield. The whole of western Massachusetts is in some sense tributary to Springfield, but the general character of the surrounding country is rather manufacturing than agricultural.

TOPOGRAPHY.

Nothing on this subject was furnished.

CLIMATE.

Highest recorded summer temperature, 94.50°; average of highest summer temperatures in years since 1875, 92.79°. Lowest recorded winter temperature, —14°; average of lowest winter temperatures in years since 1875, —7.07°.

STREETS.

The total length of the streets is 120 miles, of which 12 miles are paved with broken stone and 15 miles with gravel. Cobble-stones are used for paving 3 miles of gutters. The estimated cost of paving, per square yard, is 60 cents for cobble-stones, 80 cents for broken stone, and 35 cents for gravel. The cost of repairs is, per square yard, for cobble-stones, 2 to 3 cents; broken stone, 5 cents, and gravel 3 cents. The sidewalks are mostly of hard-burned brick, though there are some of granite and bluestone flaggings, and many concrete walks. The city is shaded by beautiful trees, set generally in the grass-plots between the sidewalks and the curbs, along the sides of the streets. The work of construction and repairs is done by the day at an average annual cost during the past ten years of $52,000, exclusive of sidewalks. The latter are made and repaired at the expense of the abutters, costing, on an average, $17,000 annually. A steam stone-crusher and a 6-ton 4-horse roller are used for street work with good results. There are about 6 miles of horse-railroads in Springfield, with 13 cars and 65 horses, employing 25 men, and carrying annually 730,000 passengers. The rates of fare are 7 cents, or, in packages of 5 tickets or multiples of 5, 5 cents each. There are 4 omnibuses, furnishing employment to 3 men and 11 horses, and carrying annually about 47,000 passengers. The rates of fare are 6 cents for single tickets, or 5 cents in multiples of 5.

WATER-WORKS.

The water-works are owned by the city, and the total cost was $1,216,847. The system is gravitation, with a maximum head of 312 feet, giving a pressure of 135 pounds to the square inch. The pressure for domestic service is about 47 pounds to the square inch. In 1879 the cost of maintenance was $8,420, while the yearly income from water-rates was $67,916. Less than a dozen meters are in use.

GAS.

Springfield is supplied with gas by the Springfield Gas Light Company, a private corporation. The charge per 1,000 feet is $2 70.

PUBLIC BUILDINGS.

The buildings owned by the city and used wholly or in part for municipal purposes are valued at $821,231. They include a city hall and land, valued at $112,000; 6 engine- and hose-houses, valued at $81,495; a city farm, valued at $59,488; a small-pox hospital, at $4,265; a city hospital, $6,000; a city barn and lot, $8,000, and 26 school-houses and their fixtures, valued at $549,983.

PUBLIC PARKS AND PLEASURE-GROUNDS.

The principal park is *Hampden Park*, situated on the right bank of the Connecticut river, only a short distance from the railroad station, with an area of about 60 acres. It is owned by private parties, but is open to the public, and has a half-mile race-track. There are also *Gladwood Park* near the northern extremity of the city, *Federal Square* near the arsenal, and the grounds of the arsenal, which serve as "breathing-places" for the city.

PLACES OF AMUSEMENT.

Springfield has 3 theaters: Hayne's music hall, seating about 900; Theater Comique, seating about 500; and the new Olympic theater, seating 350. These theaters pay a license to the city of from $1 to $2 each per night. Besides the theaters there are City hall, seating 2,300; Sovereigns' hall, seating 500; and Gibbs' hall and Hampden hall, seating 300 each. There are no concert- or beer-gardens in the city.

DRAINAGE.

The following review of the sewerage of this city is quoted from the mayor's address of 1879:

From the hills to the lowlands in the vicinity of Main street the fall is so great, and nature has shown the proper route for most of the sewers in their descent, that but little difference of opinion has arisen. But upon the belt of lowland or intervale between the foot of the hill and the river the case has been different. For quite a period the favorite route for the disposal of drainage and sewage was directly across this belt to the river; but with the growth of the city came an increased amount of sewage, rendering the air in the vicinity of the outlets quite noxious, while the distance to which lateral drainage could be carried proved altogether insufficient. The difficulties of the situation became so manifest that in 1873 the city employed experts to devise a better system of sewerage. The result was the recommendation that all lateral sewers be concentrated into one main or trunk sewer, falling continuously from the Chicopee line to the foot of York street—the main to be relieved of the large volume of storm-water brought down by Garden brook, and that gathered on the territory north of the railroad, by the construction of a large overflow sewer through Hampden street to the river.

Whatever may have been the merit of this plan, its objections—namely, that the highest point of the lowlands on the line of natural drainage, being at Worthington street, required that both the upper and lower ends of the sewer should be very near the surface of the ground, the depth near the heart of the city very considerable, and the grade quite flat—were considerations sufficient to prevent its adoption. The elevation of the upper end prevented its being practically useful to Brightwood; its depth in the heart of the city added to the difficulty of its construction, and its flat grade raised a doubt in the minds of practical men as to its efficiency, while the construction of its large storm-overflow was likely to be very expensive.

The result, however, of the presentation of this plan was that in the succeeding year (1874), and by the course pursued since, the city has committed itself to a system requiring two outfall sewers, conforming to the natural drainage lines, each having its upper end near the Boston and Albany railroad, and flowing one to the northward and one to the southward, the south main discharging at the foot of York street, and the north main into the river north of the new bridge, probably through Washburn street, and to be a suitable depth in Plainfield street for the future requirements of Brightwood.

This system combines a more uniform depth and a maximum of grade with all the merits of the former plan, except the single one of having one outlet instead of two, while the connection of the Nettleton Pond sewer with that on Worthington, east of Chestnut, has obviated the necessity of constructing a new overflow sewer for Garden brook, and, in connection with the lessened depth, has very materially reduced the probable cost of the entire system.

The south main is already completed as far north as Union street.

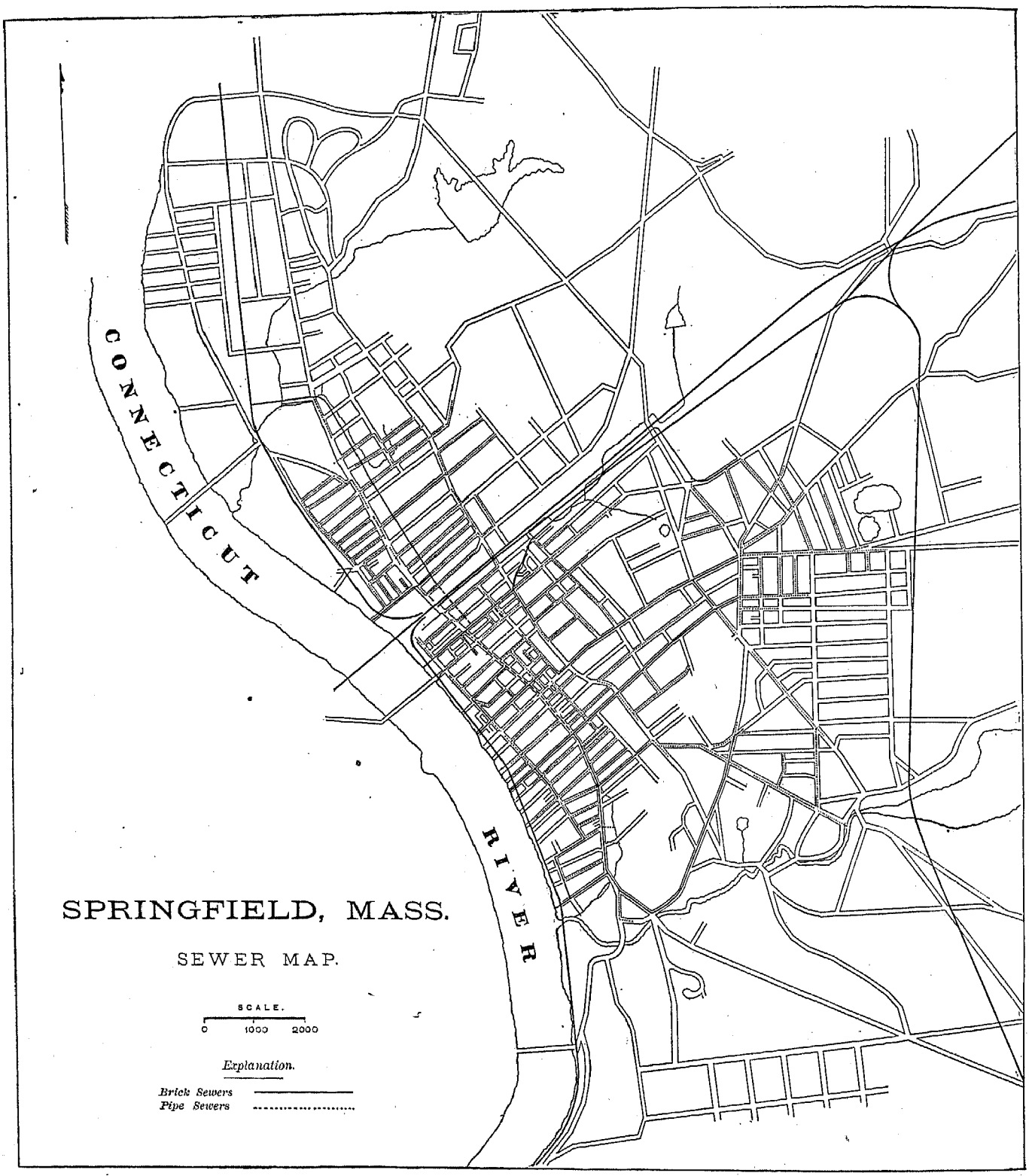
The north main is constructed from the Connecticut River railroad to Carew street, at the latter point being in the bed of the brook, about 300 feet east of Main street. From Carew to Essex, about 700 feet, the lowlands are sparsely settled, but from there to Liberty, about 1,600 feet, is the most densely populated part of our city. Through this territory flows Garden brook, sometimes an open stream, sometimes through a covered culvert, and again with only a covering of old railroad-ties, with numerous crevices, through which the earth used for covering has fallen, and everywhere made the receptacle of all that is filthy, thus poisoning the surrounding air with its malarial influences, and without doubt highly increasing the death rate, especially of the young, in its vicinity.

Efforts have been made to remedy the evil; several petitions have been sent to the city council praying for better sewerage. The board of public works have examined the matter and given the city council the benefit of their opinion, but still no relief has been furnished.

The difficulty seems to be that if the present line of the brook is followed for the sewer, it will pass through private property, and some whose estates would be crossed desire to avail themselves of privileges which the city can not properly grant.

In every case in which the citizen is damaged for the good of the public he should be amply compensated; but in cases where the benefits derived are in excess of injury suffered, he is entitled to nothing, and the city should stand upon its rights equally with the individual.

To obviate this difficulty it has been proposed to take the sewer through Carew into Main, and through Main into Liberty, connecting at each street with existing sewers east of the brook. How this might affect the sanitary result, or whether it would have any effect in the practical working of the sewer, should be investigated before moving in this direction. But by one route or the other this sewer should be extended to Liberty street the coming season. The population upon this territory have claims upon us that should not be disregarded, and no individual selfishness should be allowed to stand in the way. If the Main Street route should be adopted the city should at once remove all accumulated filth from the channel of the brook, and prohibit and prevent all persons from introducing filth or any polluting matter whatever into its channel.


CONNECTICUT
RIVER
SPRINGFIELD, MASS.
SEWER MAP.
SCALE.
0 1000 2000
Explanation.
Brick Sewers
Pipe Sewers

Of the extension of the two mains, the northern one will require the least outlay for its completion, and seems to be of the most pressing necessity. No pains should be spared to bring about some satisfactory arrangement of diverse interests. Both extensions should not be made in one season, and it will be for you, after an investigation of all pertinent facts, to say which should be voted.

All work done is "toward a regular system, and everything done to carry out this system". No report showing the details of the system referred to has been furnished, but the accompanying map indicates the locations of the brick and pipe sewers, respectively.

The sewers are ventilated by open gulley-holes and by perforated manhole covers. The drawings of catch-basins (gulley-holes) accompanying the schedule show, however, that the communication between these and the sewers is trapped, or that the inlet of the catch-basin itself is closed with a flap. The mouths of the sewers are exposed at ordinary stages of the river. The final discharge of sewage is into the Connecticut river.

Throughout the summer season one man is constantly employed in flushing the sewers, each sewer being flushed about once in two weeks. The average cost of this work is about $1,000 per annum.

The whole cost of the construction of the sewers is paid by the city from a general tax. For every house-connection the householder is charged $25.

CEMETERIES.

Springfield has 7 cemeteries, as follows:

Springfield Cemetery.—Near the center of the city, approached by Cedar, Pine, and Maple streets; area, 38. acres 100 rods.

Old Catholic Cemetery.—Corner of Liberty street and Armory road; area, about 4 acres.

Old and *New Chicopee Catholic Cemeteries.*—In northern part of the city, on Springfield street.

Saint Michael's Cemetery (new Catholic).—In the eastern part of the city; area, about 80 acres.

Longhill Cemetery.—On Summer avenue, very small.

Cherry Street Burying-ground.—On Cherry street, also very small.

No accurate information could be obtained of the number of interments in these cemeteries, but up to 1878 there had been 9,902 in Springfield cemetery. Only Springfield cemetery and Saint Michael's cemetery are now in use. The former is owned and governed by an association, and the latter by the Catholic church. A burial permit is granted by the city clerk to the undertaker on his presenting a certificate of death from the attending physician, and this permit is given by the undertaker to the superintendent of the graveyard. All graves must be 4 feet deep. No limit of time for burial after death is fixed by law.

MARKETS.

There are no public or corporation markets in the city.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Springfield is vested in a board of health consisting of three members, the mayor and city physician, *ex-officiis*, and a member of the board of aldermen, appointed by the mayor and approved by the board of aldermen. No special appropriation is made to meet its expenses, which in ordinary times are only the salary of the agent, $200, and some slight sum for stationery, etc.; but during an epidemic it can increase its expenses to any necessary amount. In the absence of an epidemic the board has authority to maintain the public health of the city, to abate nuisances, and to correct defective house-drainage, etc. During an epidemic its authority is unlimited. The chief executive officer is the agent, who acts as representative of the board. The mayor is chairman *ex-officio* and the city physician is clerk and agent *ex officio*. The board meets whenever circumstances require it. No assistants or inspectors are employed, except a veterinary surgeon to care for and inspect diseased animals. Inspections are made only when nuisances are reported. When one is reported an inspection is made within twenty-four hours, and, if found to exist, a written notice to abate it is served on the owner of the premises by the city marshal or his assistants. If this notice is disregarded the board either prosecutes the owner, orders the place vacated, or makes the abatement and charges the expense to the property, as the particular case may warrant. When defective house-drainage, privy-vaults, cesspools, etc., and defective sewerage or street-cleaning become nuisances, they are proceeded against as such. The board has entire control over the removal of garbage. None of it must be thrown into the streets or public ways, or so kept or disposed of as to become a nuisance. The board, under the statutes, has full authority to make such regulations regarding the burial of the dead as seem fit, but it does not appear to have exercised this authority.

INFECTIOUS DISEASES.

Small-pox patients are removed to a pest-house, on the city farm, about 2½ miles from the city proper. Scarlet-fever patients are treated at home, the question of quarantine being left to the discretion of the board. Children from a family in which a case of small-pox, scarlet fever, or diphtheria occurs can not attend the public schools

until four weeks after the beginning of the last case in such family. Vaccination is compulsory, and, when ordered, is done at the public expense. There is no system of registering diseases. The record of births and deaths is kept by the city clerk.

REPORTS.

The board reports annually to the city council, and its report is published in the municipal register.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its own regular force. The work is done wholly by hand, no sweeping-machines being used. The work is done under the order of the street commissioners whenever it is necessary. The sweepings are used as fillings or dumped in various parts of the city. The system, so far as cleaning is concerned, is reported as satisfactory, but the manner of final disposal is objectionable.

Removal of garbage and ashes.—Garbage and ashes are removed by a contractor. The garbage is removed in close vessels, and is collected once a day between April 15 and October 15, and during the remainder of the year twice a week. The city pays $500 annually for this service, and the garbage is fed to swine. The system is reported defective, from the impossibility of keeping the contractor up to his duty, and injury to the public health probably results from the improper keeping and handling and the infrequent removal of garbage. Ashes are removed at the expense of the householders, and no regulations govern the matter, except that they must be kept separate from the garbage.

Dead animals.—The carcasses of any large animals—horses, cows, and mules—dying within the limits of the city, are removed to a rendering-establishment by a person licensed for the purpose. The cost of this removal is $2 50 for each carcass. The carcasses of the smaller animals are taken by the offal-gatherers.

Liquid household wastes.—Chamber-slops and kitchen and laundry wastes are disposed of in the same manner. They are run into the public sewers where these exist, and, where there are no sewers, into porous cesspools, which are sometimes provided with overflows, and which in some cases receive the wastes from water-closets. Probably 99 per cent. of the wells are contaminated by the saturation of the soil from cesspools. The cesspools are cleaned when they become nuisances. The city physician says: "The cesspool is the crying evil in our city; it contaminates drinking-water, produces soil saturation, and is the source of sickness, without doubt." Out of 605 deaths in 1879, 165 were from zymotic diseases.

Human excreta.—Many of the houses in the city depend on privy-vaults, few of which are nominally water-tight. They must be cleaned by licensed persons, and the contents removed in tight carts. Some of the houses have water-closets, nearly all of which empty into the sewers. The night-soil is taken to the country and used on a farm owned by the contractors for its removal; none can be used on land within the gathering-ground of the public water-supply.

Manufacturing wastes.—No regulations exist governing the disposal of either liquid or solid manufacturing wastes.

POLICE.

The police force of Springfield is appointed by the mayor, subject to the confirmation of the board of aldermen, and is governed by the mayor and aldermen. The chief executive officer is the city marshal, whose duties are the enforcement of the laws and ordinances, and whose salary is $1,400 a year. The rest of the force consists of 1 assistant marshal, salary $1,000 a year; 1 captain of the watch, salary $900 a year, and 23 patrolmen, who receive each $775 the first year, $800 the second year, and $825 a year for the remainder of their time on the force. The uniform is of blue cloth with brass buttons, and each man furnishes his own. The men are equipped with billies, twisters, and handcuffs. During the past year 1,324 arrests were made, the principal causes being drunkenness, larceny, and assault. The amount of property lost or stolen, recovered by the police and returned to the owners, was $2,086 17. During the year 636 station-house lodgers were accommodated, against 964 in 1879, and 5,152 in 1876. The police must co-operate with the fire and health departments. Special policemen are appointed by the mayor and aldermen, but have no regular duties unless called on to fill vacancies in the regular force, or assist it when inadequate. The total cost of the police in 1880 was $23,644 98.

FIRE DEPARTMENT.

The fire department of Springfield consists of 1 chief and 4 assistant engineers, appointed annually by the city council, and 7 foremen and 82 men, with a volunteer company in South Main street of 15 men, and a company in Indian Orchard of 13 men. There is also the superintendent of the fire-alarm, salary $620 a year. The regular force is appointed by the mayor and aldermen. The force is divided into *permanent*, consisting of chief engineer, salary $1,100 a year; 3 engineers of steamers, at $840 a year each; 8 drivers, at $600 a year each, and 1 tillerman, at $600 a year; and *call*, consisting of 80 men, receiving salaries of $125 a year for foremen and $100 a year for

hosemen. The members of the company in Indian Orchard receive $50 each a year, and the foreman $125. The United States armory department can be called on for service when necessary, through the courtesy of the the commandant. The apparatus consists of 4 steam fire-engines, 2 hook-and-ladder trucks, 5 two-wheel hose-carriages, 1 two-wheel hose-tender, and 4 hand hose-carriages. The department owns 11,550 feet of hose, 13 horses, 3 wagons, and a fire-alarm telegraph. The latter has 25 miles of wire, 27 signal-boxes, 13 gongs, 3 bell-strikers, and 3 call-bells, all worked by a battery of 170 cups. The hose consists of 3,300 feet of cotton rubber-lined; 50 feet rubber, and 8,200 feet of leather—1,200 feet of which is unreliable at high pressure. There were 27 alarms of fire during the past year, and property to the value of $151,600 was destroyed, on which an insurance of $146,500 was paid. The chief engineer recommends the formation of a salvage corps. The total expense of the department for 1880 was $26,301 78. Water for fire purposes is taken from 345 public and private hydrants and 43 reservoirs, 25 being filled from the water-works and 18 from surface-water.

PUBLIC SCHOOLS.

Springfield has 30 schools, divided as follows: 1 high, 6 grammar, 12 primary, 8 ungraded, 2 evening, and 1 draughting schools. These schools occupy 26 regular school-houses and one other building rented for the purpose. The whole number of school-rooms is 94. The whole number of children between the ages of 5 and 15 in the city is 5,865, while during the year 5,834 pupils were enrolled in the various schools—3,101 boys and 2,733 girls. The average number in daily attendance was, boys, 2,334; girls, 1,916; total, 4,250. The percentage of attendance was, boys, 94.4; girls, 92.6; percentage of both sexes, 93.5. In the evening schools there were 181 males and 111 females; total, 292. In the draughting school there were 166 pupils. The whole number of pupils attending in all the day and evening schools was 6,292. The city employs in all 123 teachers. The total expense of the schools during the past year was $90,550 88.

The report of the school committee for the year ending December 31, 1880, condemns in severe terms the sanitary condition of the various school-buildings.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Springfield for 1880, being taken from tables prepared for the Tenth Census by Roderick Burt, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	434	$9,177,250	4,881	2,138	341	$2,906,130	$7,726,119	$12,891,826
Blacksmithing (see also Wheelwrighting)	20	13,875	50	.....	.....	21,575	17,621	57,225
Boots and shoes, including custom work and repairing	27	7,125	15	.....	.....	6,100	10,442	33,588
Boxes, fancy and paper	6	24,500	35	154	.....	46,700	80,900	145,267
Brass castings	3	52,300	65	.....	10	23,950	32,400	81,000
Bread and other bakery products	10	48,250	49	11	1	30,389	105,465	199,254
Brick and tile	7	91,000	150	.....	.....	34,950	21,965	82,000
Buttons	3	133,000	81	316	35	114,316	92,620	274,220
Cardboard	3	73,000	58	12	.....	36,132	159,827	224,204
Carpentering	43	148,700	272	.....	.....	127,030	310,275	545,582
Carriages and wagons (see also Wheelwrighting)	5	32,500	47	.....	.....	27,550	26,800	70,580
Cars, railroad, street, and repairs	3	493,000	458	10	.....	204,113	719,078	995,677
Clothing, men's	10	42,200	52	81	.....	61,990	90,300	178,250
Collars and cuffs, paper	4	190,000	30	28	.....	30,535	333,238	408,451
Confectionery	5	87,300	49	8	.....	31,250	161,500	225,900
Cotton goods	3	1,517,250	355	477	141	235,336	658,236	1,167,564
Dentistry, mechanical	3	2,325	.....	.....	.....	.....	1,100	5,900
Dyeing and cleaning	4	8,200	15	6	.....	8,700	4,100	18,750
Electroplating	5	8,500	18	.....	1	7,925	18,400	60,950
Envelopes	4	500,000	93	525	10	154,750	1,121,450	1,445,570
Fancy articles	3	84,500	15	10	.....	8,425	7,900	21,500
Fire-arms	3	2,975,455	614	.....	.....	416,147	221,260	711,093
Flouring- and grist-mill products	3	47,000	4	.....	.....	1,650	56,395	71,315
Foundery and machine-shop products	13	377,700	265	.....	.....	124,468	254,653	458,585
Furniture (see also Mattresses and spring beds)	10	96,950	68	3		32,923	108,810	175,520
Hand-stamps	3	15,700	19	1	.....	10,600	20,750	38,500

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
Jewelry	4	$13,900	8	15	.....	$10,185	$29,450	$51,000
Kindling wood	5	1,750	10	.....	.....	3,495	3,880	9,150
Liquors, malt	3	65,000	32	.....	.....	14,739	78,890	135,250
Looking-glass and picture frames	3	8,800	5	.....	.....	3,600	13,900	21,100
Marble and stone work	7	54,380	79	.....	1	44,250	40,000	111,000
Masonry, brick and stone	3	7,500	12	.....	.....	6,690	7,500	20,500
Mattresses and spring beds (see also Furniture)	4	19,065	16	5	.....	10,271	26,322	51,951
Painting and paperhanging	32	21,410	74	.....	.....	43,100	41,055	114,355
Photographing	10	22,800	11	1	.....	7,200	9,210	41,150
Plumbing and gasfitting	3	4,500	6	.....	.....	4,400	13,680	22,530
Printing and publishing	10	158,700	203	76	8	156,842	182,396	391,072
Saddlery and harness	9	61,850	163	1	.....	31,775	128,250	189,804
Sash, doors, and blinds	3	18,000	47	.....	.....	20,652	36,764	66,141
Sewing-machines and attachments	3	51,200	53	.....	.....	17,450	31,500	94,400
Slaughtering and meat-packing, not including retail butchering	4	149,000	32	.....	.....	20 080	840,615	940,730
Soap and candles	4	124,750	31	2	.....	13,778	203,450	229,254
Tinware, copperware, and sheet-iron ware	13	129,200	97	6	2	44,255	124,850	204,840
Tobacco, cigars, and cigarettes	19	125,590	149	59	4	102,742	227,466	395,560
Watch and clock repairing	14	7,375	14	.....	.....	8,200	7,225	24,800
Wheelwrighting (see also Blacksmithing; Carriages and wagons)	8	8,250	8	.....	.....	4,065	3,930	14,700
All other industries (*a*)	70	1,053,900	954	331	128	540,850	1,040,301	2,066,085

a Embracing artificial limbs; awnings and tents; bags, paper; bells; billiard tables and materials; blacking; bookbinding and blank-book making; boxes, cigar; boxes, wooden packing; bridges; carriages and sleds, children's; clothing, women's; coffee and spices, roasted and ground; coffins, burial cases, and undertakers' goods; drain and sewer pipe; drugs and chemicals; dyeing and finishing textiles; gas machines and meters; glue; gold and silver leaf and foil; hairwork; hardware; ink; iron forgings; iron work, architectural and ornamental; leather, dressed skins; lithographing; lock- and gun-smithing; lumber, planed; mantels, slate, marble, and marbleized; mineral and soda waters; models and patterns; musical instruments, organs and materials; needles and pins; pens, gold; pumps; roofing and roofing materials; rubber and elastic goods; shirts; show-cases; silk and silk goods; spectacles and eyeglasses; stencils and brands; stereotyping and electrotyping; tools; toys and games; upholstering; varnish; watches; wire; wirework; wood pulp; woolen goods; and worsted goods.

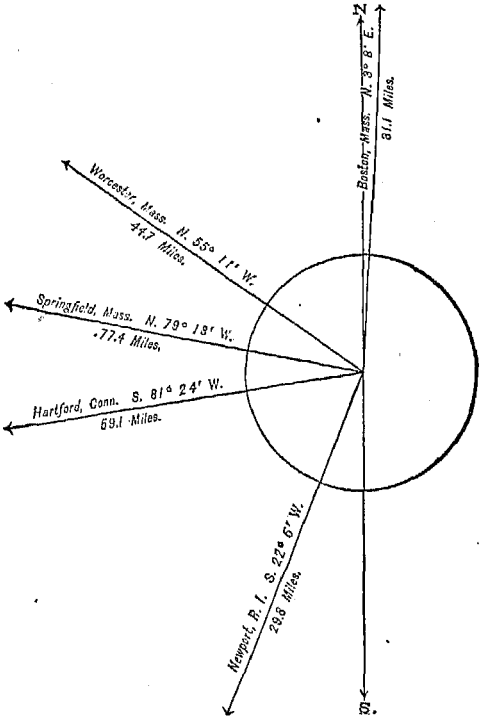
From the foregoing table it appears that the average capital of all establishments is $21,145 74; that the average wages of all hands employed is $394 85 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is $25,767 01.

TAUNTON,

BRISTOL COUNTY, MASSACHUSETTS.

POPULATION IN THE AGGREGATE, 1800-1880.

	Inhab.
1790	.....
1800	3,860
1810	3,907
1820	4,520
1830	6,042
1840	7,645
1850	10,441
1860	15,376
1870	18,629
1880	21,213



POPULATION BY SEX, NATIVITY, AND RACE, AT CENSUS OF 1880.

Male	10,328
Female	10,885
Native	16,084
Foreign-born	5,129
White	21,102
Colored	*111

*Including 1 Indian.

Latitude: 41° 54′ North; Longitude: 71° 6′ (west from Greenwich); **Altitude: 7.27 to 206.73 feet.**

FINANCIAL CONDITION:

Total Valuation: $15,727,433; per capita: $741 00. Net Indebtedness: $449,715; per capita: $21 20. Tax per $100: $1 50.

HISTORICAL SKETCH.

Taunton was incorporated as a town in 1639, and its growth has been very gradual. It was early noted for its iron manufactures, which continue to be prominent. It is said that Richard Williams came here in 1633 and began the tanning of leather and trading with the Indians, settlers gradually coming in until a sufficient number authorized the incorporating and naming of the town. Taunton was granted a city charter in 1864. It suffered from ravages of fire in 1838, 1847, and 1859. From 1837 to 1846 the business was much depressed in consequence of the failure of one firm which had control of nearly the whole manufacturing interests of the town. In 1857 business was again much depressed and many important failures occurred. This panic resulted in the purchase by the townspeople of

many concerns hitherto controlled by outside capital, which concerns have since been very successful, thus adding materially to the prosperity of the city. From 1873 to January, 1879, business was again much depressed, but improvement has since set in, and now employment can be obtained by all who desire it. The population, originally of Pilgrim stock, differs in accordance with location. The suburbs, mostly agricultural, are populated by the descendants of the original settlers, while the most thickly-settled parts of the city consist in part of the descendants of the early settlers, and in part of the factory operatives of foreign birth. The industries here are of such a character (*i. e.* locomotive-building, machine-shops, and the manufacture of silver-plated ware, nails, tacks, etc.) that many more skilled adult workmen are employed than in most manufacturing places. These mechanics earn good wages, send their children to school and to college, are competent to take part in the local government, and are, in the main, excellent citizens. There has been no supplanting of the original stock, and it may be said that the people of Taunton retain to a great degree the traits of careful, economical thrift, which are marked characteristics of the original settlers of the Old Colony.

TAUNTON IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Taunton:

LOCATION.

The city lies in latitude 41° 54′ north, longitude 71° 6′ west from Greenwich, on the Taunton river, at its junction with the Mills river, and about 17 miles above the point where the former empties into Mount Hope bay. The mean altitude above sea-level is 55 feet; lowest point, 7.27 feet; highest point, 206.73 feet. Taunton is situated at the head of navigation on Taunton river, which is navigable, having a draught of water at high-tide of 9 feet. The river at this point is 110 feet wide, which width is all available as channel. The river and tidal current is 3 miles an hour. Taunton is the distributing point for and has communication with all of southeastern Massachusetts.

RAILROAD COMMUNICATIONS.

The Old Colony railroad runs through the city from Boston to Fall River and Newport, connecting at these latter places with boats via Long Island sound to New York.

TRIBUTARY COUNTRY.

Taunton is the natural head of supply for this part of the state. The farms in the surrounding townships are mostly small, the owners in many instances depending in the winter on some other branch of business for their support. Most of the surrounding towns have shoe manufactories, and the trade in these towns is mostly retail.

TOPOGRAPHY.

Taunton is situated in a basin drained by Taunton Great river. Large deposits of clay exist, together with considerable sand and gravel, with occasional outcroppings of granite. The soil is fertile. The outer edge of the basin, which is 3 miles from the center of the city, is from 80 to 200 feet higher (to the east, north, and west) than in the center. At a distance of 5 miles the country is wooded.

CLIMATE.

The highest recorded summer temperature is 103° (June 25, 1880); lowest recorded winter temperature, —27° (January 30, 1873). The influence of adjacent waters is said to be very slight, and that of marshes and elevated lands imperceptible. The summer is made cooler by prevailing southwesterly winds.

STREETS.

Total length, 275½ miles, paved with the following materials: Cobble-stones, one-quarter of a mile; stone blocks, one-quarter of a mile; broken stone, 75 miles; and gravel, 200 miles. The cost of each, per square yard, as nearly as it may be estimated, is: Stone blocks, $3; cobble-stones, $1 50; and broken stone, 62 cents. Stone blocks are the easiest to keep clean, cobble-stones and broken stone following in their order. Stone blocks make the best pavement and are thought to be the most economical. Sidewalks are paved with brick, concrete, and gravel; gutters with cobble-stones. The work of construction and repair of streets is done by the day; its annual average cost is $30,000. Taunton is noted for its beautiful shade-trees, which abound at the sides of all the streets. This work has been done entirely by individuals. In construction of streets the city uses a steam stone-crusher and a horse-roller. There are a little over 4 miles of horse-railroads in the city, using 11 cars and 32 horses and giving

employment to 11 men. During the year, 317,983 passengers were carried, the rates of fare being, single tickets 8 cents, 4 for 25 cents, and 17 for $1. The omnibus lines in the city have 2 vehicles and 4 horses, and employ 1 man. About 75 passengers are carried daily, and the rate of fare is 15 cents.

WATER-WORKS.

The water-works are owned by the city, and cost, to November 30, 1879, $276,876. The Holly system (direct pumping) is used. The average amount of pumping per diem is 500,000 gallons; greatest amount of pumping per diem, 750,000 gallons, and least amount of pumping per diem, 350,000 gallons. The average cost of raising 1,000,000 gallons 1 foot high is 2 cents; the yearly cost of maintenance, aside from cost of pumping, is $3,681; the yearly income from water-rates is $24,000. About 15 per cent. of the consumption of water is through meters, considerable saving resulting from their use.

GAS.

The gas-works are owned privately. The daily average production is 47,000 feet. The charge per 1,000 feet is from $2 to $2 75. The city pays for each street-lamp 1¼ cent per hour, the number of lamps being 132. The income from meter-rates is $34,434 81.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, the city hall, 3 police stations, 1 central engine-house, 1 almshouse, 4 hose- and engine-houses, 1 ward-room, rooms for public library and reading-room, armory, rooms for water department, and building for pump at water-works. The total cost of municipal buildings belonging to the city is $276,000. The city hall cost $20,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

The total area of such is 3 acres. The square known for many years as "Taunton Green", in the center of the city, is the largest. It covers 1½ acre and is surrounded with a good iron and stone fence. The first cost of it was nothing, as it was a gift to the ancient town for a training-field. The yearly cost of maintenance of parks is $150. It is estimated that 30,000 people annually visit the green. The parks are under the city's control.

PLACES OF AMUSEMENT.

Music hall, used as a theater, seats 1,100 persons; it is used also for concerts, lectures, etc. Entertainments of this kind pay license to the city; the total amount thus paid was, in 1879, $184.

There are also Wilber's hall (first floor), with a capacity of 500, and Concert hall (second floor), with a capacity of about 600.

Taunton contains no concert- or beer-gardens.

DRAINAGE.

The average cost of each inlet-basin and its connection with the sewers is about $40; of each manhole of an average depth (8 to 9 feet), about $50. Some few water-courses have been covered by private parties, but none have been incorporated into the sewer-work done by the city. In a few cases the overflow of storm-water is taken into the sewers. Sewers are not built according to a regular plan, but according to the requirements of each case as it comes up. The subject of a general plan has been agitated in recent years. No provision is made for the ventilation of the sewers. Hollow invert blocks for subsoil drainage are not used. The mouths of the sewers as they deliver into the river are fully exposed.

It is not necessary to remove deposits in the sewers by hand, and they receive no artificial flushing. Deposits are removed from the inlet-basins once or twice a year. The cost of such removal is about $4 per year. The cost of the construction of sewers is paid, one-third by the city and two-thirds by assessment of the abutters on the basis of front foot. During the year 1880 there were laid 1,200 feet of 18 by 26 inch sewers, at a cost of $1 85 per foot, and 1,500 feet of 16 by 22 inch sewer, at a cost of $1 25 per foot.

CEMETERIES.

No report on this subject was sent.

MARKETS.

Taunton has no corporation markets. Two sides of the city square are occupied, by permission, by farmers' and hucksters' wagons and teams with wood and hay. This place is used on account of convenience and long habit. A considerable amount of meat is furnished from refrigerator-cars bringing the dressed animals from the West. In this connection are two wholesale markets located by the side of the railroad, near the freight depot.

SANITARY AUTHORITY—BOARD OF HEALTH.

The title of the chief health organization is "board of health", which is composed of two members of the board of aldermen and three of the common council, selected by the mayor and president of the common council, and virtually under the control of the common council. No physician is on the board. No appropriation is made for the expenses of the board except for special or unusual cases, the usual labor being done by the police or the highway departments, as the circumstances may require. During an epidemic the board might increase its expenses with an appropriation by the city council. It has authority in the absence of epidemics to cause all sources of sickness, filth, or other nuisances to be abated or removed whether on private property or in the streets. During epidemics its power extends to a more vigorous application of the powers given it by the general statutes. The chief executive officer of the board is the city marshal. This service, for which he receives no extra salary, is made a part of his duty. The board meets for the transaction of business once a month, and oftener if necessary. No assistant health officers or inspectors are employed, though the city physician is called upon if circumstances require.

Inspections are made only as nuisances are reported or are known to members of the board. When nuisances are reported, the person permitting it is notified to abate it; if he fails to do so, the board, through the city marshal, does it. Concerning the correction and inspection of defective house-drainage, privy-vaults, cesspools, and sources of drinking-water, it is the custom to give notice to the owner or agent to correct the defect; if he fails or declines to do so, the board orders it done at his expense. If neither owner nor agent is known, notice is posted on the premises, and proceedings are then taken as above. The correction of defective sewerage, street-cleaning, etc., is attended to by the superintendent of streets and highways. The board exercises no control over the conservation and removal of garbage, unless a nuisance arises therefrom. There are no regulations concerning the burial of the dead. The purity of streams, etc., is protected by an ordinance forbidding the pollution of any water within the city by casting into it any animal or vegetable matter. No person is allowed to open any privy-vaults between April 15 and October 15, without an order from the board of health, and at no time between the hours of 4 a. m. and 10 p. m., and a water-tight wagon must always be used for the conveyance of the contents thereof.

INFECTIOUS DISEASES.

Small-pox patients are taken to the hospital maintained for contagious diseases, situated on the city farm, about 100 rods from the street and as far from the almshouse, on the same farm. Scarlet-fever patients are not isolated. The board does not take cognizance of the breaking out of contagious diseases in public or private schools, but the school committee usually forbids members of families where such diseases exist from any communication with the schools. Vaccination is compulsory on children attending schools, and is done at the public expense when the party is unable to pay for it.

The city clerk keeps a register of diseases, births, and deaths. The city physician also keeps his record, and reports quarterly.

REPORTS.

The board reports yearly to the city council, its reports being published in the city register.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned by the city with its own force. The cleaning is done by hand, and not at regular intervals, but as necessity requires. The work is done efficiently, and includes the cleaning of gutters as well. The annual cost of this work to the city is not known, it being done by the highway department, but it may be estimated at $1,000. Most of the sweepings are deposited in low places for filling, the remainder on the city farm.

This system is thought to work well, and, with Taunton's large territory, to be "the most practical way to do the work". No trouble has yet arisen from the disposition made of sweepings.

Removal of garbage and ashes.—Garbage is removed to a small extent by the city, but principally by householders. What the city does is done by its own force. The regulations concerning garbage require, where it is to be removed by the city, that it shall at certain times be placed in barrels. Ashes and garbage are allowed to be kept in the same vessel. The city removes both to the city farm. The annual cost of removal to the city is about $400; the cost to householders is not known. No nuisance or injury to health is known to be produced by the improper keeping or handling of garbage.

Dead animals.—There are no special ordinances relating to dead animals. They are usually buried in some remote place. The cost of such removal is very small, if anything, and the number is unknown. The system lacks the merit of a regular organization, though no serious trouble arises therefrom.

Liquid household wastes.—Most of the waste water from sleeping-rooms is disposed of in the same way as laundry waste and kitchen-slops. A limited number of householders, not more than one in twenty, deliver their

liquid wastes into public sewers. In no case are they allowed to be run into the street-gutters. The most common disposition of the liquid wastes is to run them into "dry wells" or cesspools on the premises, at least half the dwellings being so arranged. These wells are almost universally porous. Some of them are provided with overflows leading to the sewers or to the river. In but few instances where cesspools or dry wells are used do they receive the waste of water-closets; in most cases they are dry vaults. Well-water in the more densely-settled parts of the city is usually very bad. In the outer parts of the city, where land is higher, the water is good. The principal dependence now is upon water from the water-works, or upon filtered cistern-water. When cesspools are not properly taken care of by tenants they are cleaned out by order of the board of health, at the owners' expense. This must be done between 10 p. m. and 4 a. m.

Human excreta.—Very few of the houses have water-closets, perhaps one-twentieth of those in the central part of the city; the rest depend on privy-vaults. Very few of the water-closets deliver into public sewers, perhaps one in fifty; the rest mostly enter cesspools, some of which have overflows into sewers. Nearly all of the privy-vaults are nominally water-tight. The dry-earth system is not used to any great extent as a system, but dry earth is largely used in connection with the vaults as a deodorizer. The ultimate disposal of night-soil is on farms for manure. None is known to be used for manuring land within the gathering-ground of the public water-supply.

Manufacturing wastes.—There are no ordinances regulating the disposal of liquid and solid manufacturing wastes, these being generally run into the sewers or the river. If a nuisance arises, however, it is noticed by the board of health. This method is simple, and, as the manufactures are chiefly of cotton and of iron, no great nuisances arise.

POLICE.

The police force is appointed by the mayor and confirmed by the board of aldermen. It is governed by the city marshal under the direction of the mayor. The chief executive officer is the city marshal. His duties are to look after and govern the police, and in fact to give his whole time to the business of the police department. His salary is $900 per annum. There are 2 captains, 4 day police, and 10 night police. Their salaries are: Captains, $2 25 per day; day police, $2; night police, $2. The uniform is of dark blue, with regular police hat. Each man provides his own uniform, and the cost per year is about $100 per man, the city allowing each man $50 for this purpose. The patrolmen are armed with revolver, billy, twisters, and handcuffs. Their hours of service are, day men, 12½ hours; night men, 12½ hours. The length of streets patrolled is not given, but it is stated to be "more than can be well done".

The number of arrests in 1880 was 840. The principal causes for such arrests were: Assault and battery (78), breaking and entering and larceny (26), drunkenness (528), larceny (49), vagrancy (22). During the year 1880 stolen and lost property to the amount of $6,138 45 was recovered and returned to the owners. For the same period 654 station-house lodgers were accommodated; during 1879 the number was 1,289. During 1880 free meals were given to station-house lodgers at a cost of about $125. Officers not on duty are required to attend fires, to keep the crowd back, and see that nothing is stolen. One officer is detailed for duty when required by the health committee. Special police are appointed by the mayor for private property at the request of the owners, but these do not report to the city marshal, and have no connection with the regular force. The cost of the force in 1880 was $12,795 06.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Taunton for 1880, being taken from tables prepared for the Tenth Census by Daniel L. Mitchell, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	148	$4,086,134	2,585	898	671	$2,083,183	$4,272,451	$7,618,953
Blacksmithing (see also Wheelwrighting)	16	11,650	15	.....	.....	4,734	7,540	23,019
Boots and shoes, including custom work and repairing	7	2,350	9	.....	.....	4,200	4,325	12,350
Brick and tile	10	207,100	184	.....	1	57,949	27,737	145,792
Bread and other bakery products	3	6,000	16	3	2	7,500	27,000	43,500
Carpentering	5	6,600	26	.....	.....	9,706	17,960	37,400
Clothing, men's	4	22,500	7	26	.....	10,750	27,200	44,500
Cotton goods	8	690,000	459	514	518	391,190	995,200	1,856,881
Flouring- and grist-mill products	3	23,500	9	.....	.....	3,803	140,635	161,122
Foundery and machine-shop products	16	1,099,300	1,231	3	.....	690,107	870,778	1,725,826
Iron nails and spikes, cut and wrought	5	560,000	277	158	98	208,770	649,577	938,375

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
Lumber, sawed	4	$24,000	48	.....	3	$16,900	$22,100	$51,500
Marble and stone work	3	5,884	12	.....	.....	5,942	3,941	14,593
Painting and paper-hanging	4	6,700	19	.....	.....	8,500	3,200	15,500
Plumbing and gasfitting	3	5,100	7	.....	.....	3,600	6,150	13,000
Saddlery and harness	5	5,600	7	.....	.....	2,650	4,950	11,850
Tinware, copperware, and sheet-iron ware	5	26,000	13	.....	1	6,380	8,800	20,400
Wheelwrighting (see also Blacksmithing)	9	9,300	11	.....	.....	3,625	6,500	19,250
All other industries (*a*)	38	1,364,550	1,235	194	48	646,819	1,448,858	2,483,200

a Embracing agricultural implements; baskets, rattan and willow ware; blacking; brass castings; brass and copper, rolled; buttons; carriages and wagons; coffins, burial cases, and undertakers' goods; crucibles; cutlery and edge tools; drugs and chemicals; enameled goods; files; housefurnishing goods; iron and steel; masonry, brick and stone; mattresses and spring beds; mineral and soda waters; models and patterns; patent medicines and compounds; plated and britannia ware; printing and publishing; sash, doors, and blinds; slaughtering and meat-packing; stencils and brands; stone- and earthen-ware; tobacco, cigars, and cigarettes; upholstering; and wood, turned and curved.

From the foregoing table it appears that the average capital of all establishments is $27,609 01; that the average wages of all hands employed is $404 19 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is $44,600 03.